

## Appointment

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**From:** Dickerson, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=D0440D9F06994021827E0D0119126799-DICKERSON,]  
**Sent:** 10/1/2018 11:03:13 PM  
**To:** Adm15Wheeler.Calendar [Adm15Wheeler.Calendar@epa.gov]; Gunasekara, Mandy [Gunasekara.Mandy@epa.gov]; Brittany Bolen (bolen.brittany@epa.gov) [bolen.brittany@epa.gov]  
**CC:** Jackson, Ryan [jackson.ryan@epa.gov]  
**Subject:** Meeting with Boeing and General Electric  
**Attachments:** EPA Meeting Request Form.docx  
**Location:** Administrator's Office  
  
**Start:** 10/25/2018 8:00:00 PM  
**End:** 10/25/2018 8:30:00 PM  
**Show Time As:** Busy

### Contact:

TATUM MARTINEZ | CGCN GROUP  
1101 K STREET, NW, SUITE 800 WASHINGTON, D.C. 20005  
571.271.4901 / [martinez@cgcnc.com](mailto:martinez@cgcnc.com) / [www.cgcnc.com](http://www.cgcnc.com)



**ACTING ADMINISTRATOR ANDREW WHEELER  
MEETING REQUEST FORM  
U.S. Environmental Protection Agency**

**Today's Date:** 9/5/18

**Proposed Meeting Date and Time:** Within the next few weeks

**Requesting Individual / Affiliation:** Administrator Wheeler

**Location of meeting:** EPA

**Is the Above Date Flexible?** Yes

**Purpose of the Meeting** To provide Boeing's views on some environmental programs, specifically within the aviation manufacturing and operations space. In addition, we would like to discuss the importance of OAR's work drafting the regulations to implement the ICAO Aircraft Fuel Efficiency/CO2 Standard.

**Does the topic of the meeting include any area under litigation? If so, name the litigation.** No

**Role of the Acting Administrator:** Meeting participant

**List all attendees and their affiliation:** **Participants from Boeing:**  
Ted Austell – Vice President, Executive, Legislative and Regulatory Affairs  
Peter Pagano – Director, Environment  
John Moloney – Director, Aviation Policy  
**Participants from GE:**  
Roger Martella – General Counsel, EHS Division  
Mike Fitzpatrick – Head of Regulatory Advocacy  
Neal Kemkar – Senior Counsel and Director, Environmental Policy

**Requestor(s)' Relationship to EPA:** Our client is directly regulated by the EPA

**Does the organizer/host personally know the Acting Administrator? If so, what is the nature of the relationship and its length?** Yes, both personally and professionally since 2001



**ACTING ADMINISTRATOR ANDREW WHEELER**  
**MEETING REQUEST FORM**  
**U.S. Environmental Protection Agency**

**Has the organizer/host met previously with  
the Acting Administrator? If so, which dates?** No

**Point of Contact:** Tatum Martinez at [martinez@cgcen.com](mailto:martinez@cgcen.com)

*Please return this completed form to Aaron Dickerson at [dickerson.aaron@epa.gov](mailto:dickerson.aaron@epa.gov).*

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## Appointment

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**From:** Atkinson, Emily [Atkinson.Emily@epa.gov]  
**Sent:** 9/21/2018 2:17:00 PM  
**To:** Grundler, Christopher [grundler.christopher@epa.gov]; Charmley, William [charmley.william@epa.gov]; Samulski, Michael [samulski.michael@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Leggett, Cullen [Leggett.Cullen@epa.gov]; Mueller, John [mueller.john@epa.gov]; Thrift, Mike [thrift.mike@epa.gov]; Orlin, David [Orlin.David@epa.gov]; Burch, Julia [Burch.Julia@epa.gov]; Giannelli, Bob [Giannelli.Bob@epa.gov]; Maeroff, Bruce [Maeroff.Bruce@epa.gov]; Stevens, JeffreyA [Stevens.JeffreyA@epa.gov]; Yen, David [Yen.David@epa.gov]  
**CC:** Hengst, Benjamin [Hengst.Benjamin@epa.gov]; Schwab, Justin [Schwab.Justin@epa.gov]; Woods, Clint [woods.clint@epa.gov]  
**Subject:** Delegated to Clint Woods: Meeting with Boeing, General Electric & Aerospace Industries Association re: aircraft emission issues (confirmed)  
**Attachments:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20  
**Location:** WJC - N 5400 + Video with AA + Ex. 6 Personal Privacy (PP)  
**Start:** 9/20/2018 2:30:00 PM  
**End:** 9/20/2018 3:15:00 PM  
**Show Time As:** Tentative

### Bill Wehrum did not attend this meeting

**TO:** Bill Wehrum, Chris Grundler, Bill Charmley, Mike Samulski, Bryan Manning, Cullen Leggett, John Mueller, Mike Thrift, David Orlin, Julia Burch, Bob Giannelli, Bruce Maeroff, Jeffery Stevens, David Yen



RE: Request for  
Meeting with Ass...

### Meeting participants (in person):

- Aerospace Industries Association: Leslie Riegle and David Hyde
- Boeing: Ted Austell, Pete Pagano, John Moloney, Dan Allyn, Sean Newsum
- General Electric: Roger Martella, Neal Kemkar, Mike Fitzpatrick, Muni Majjigi, Joe Zelina

Message

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**From:** Pagano (US), Peter A [peter.a.pagano@boeing.com]  
**Sent:** 7/30/2018 11:13:44 AM  
**To:** Rakosnik, Delaney [rakosnik.delaney@epa.gov]  
**CC:** Lewis, Josh [Lewis.Josh@epa.gov]; Hengst, Benjamin [Hengst.Benjamin@epa.gov]; Atkinson, Emily [Atkinson.Emily@epa.gov]  
**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Delaney

Thanks for the message. This is to confirm that the meeting time on Sept 20 will work on our end. We will be in touch to provide participant names closer to the meeting date. Please let me know what additional information you may need.

All the best

Pete Pagano

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**From:** Rakosnik, Delaney <rakosnik.delaney@epa.gov>  
**Sent:** Friday, July 27, 2018 12:31:07 PM  
**To:** Pagano (US), Peter A  
**Cc:** Lewis, Josh; Hengst, Benjamin; Atkinson, Emily  
**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Peter,

Bill Wehrum can accommodate a 45 min meeting on Sept 20<sup>th</sup> at 10am. How does that time work for your schedules?

Many thanks,

Delaney Rakosnik  
Staff Assistant  
Immediate Office of the Assistant Administrator  
Office of Air and Radiation, USEPA  
Room 5406A, 1200 Pennsylvania Avenue NW  
Washington, DC 20460  
Voice: 202-564-0935  
Email: [rakosnik.delaney@epa.gov](mailto:rakosnik.delaney@epa.gov)

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**From:** Pagano (US), Peter A [mailto:peter.a.pagano@boeing.com]  
**Sent:** Monday, July 23, 2018 3:17 PM  
**To:** Rakosnik, Delaney <rakosnik.delaney@epa.gov>  
**Cc:** Lewis, Josh <Lewis.Josh@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>  
**Subject:** Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Delaney

The purpose of this message is to request a meeting with Assistant Administrator Wehrum to discuss aircraft emissions issues that are within the jurisdiction of the International Civil Aviation Organization's (ICAO) Environment Committee. OTAQ staff are actively engaged in policy formulation at ICAO as well as in developing domestic implementing regulations. Meeting participants would include representatives from Boeing; General Electric; and the Aerospace Industries Association. Attached below is a draft agenda which

includes specific discussion topics. We are requesting Sept 19 or 20 as potential meeting dates because out of town participants for both companies will already be in DC for an industry meeting earlier in the week. We will work with you to find a convenient time that works for Mr Wehrum on either of those days. You should know that I have already provided background regarding this request to OTAQ (Ben Hengst). Thank you in advance for your assistance and please let me know if any additional information would be helpful to you.

## **Ex. 5 Deliberative Process (DP)**

Sincerely,

Peter A. Pagano  
Director, Environment  
The Boeing Company  
703-414-6486  
Email: [peter.a.pagano@boeing.com](mailto:peter.a.pagano@boeing.com)

## Appointment

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**From:** Rakosnik, Delaney [rakosnik.delaney@epa.gov]  
**Sent:** 9/17/2018 6:08:20 PM  
**To:** Grundler, Christopher [grundler.christopher@epa.gov]; Charmley, William [charmley.william@epa.gov]; Samulski, Michael [samulski.michael@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Leggett, Cullen [Leggett.Cullen@epa.gov]; Mueller, John [mueller.john@epa.gov]; Thrift, Mike [thrift.mike@epa.gov]; Orlin, David [Orlin.David@epa.gov]; Burch, Julia [Burch.Julia@epa.gov]; Giannelli, Bob [Giannelli.Bob@epa.gov]; Maeroff, Bruce [Maeroff.Bruce@epa.gov]; Stevens, JeffreyA [Stevens.JeffreyA@epa.gov]; Yen, David [Yen.David@epa.gov]  
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**TO:** Bill Wehrum, Chris Grundler, Bill Charmley, Mike Samulski, Bryan Manning, Cullen Leggett, John Mueller, Mike Thrift, David Orlin, Julia Burch, Bob Giannelli, Bruce Maeroff, Jeffery Stevens, David Yen



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**From:** Wehrum, Bill [Wehrum.Bill@epa.gov]  
**Sent:** 7/30/2018 7:51:09 PM  
**To:** Wehrum, Bill [Wehrum.Bill@epa.gov]; Grundler, Christopher [grundler.christopher@epa.gov]; Charmley, William [charmley.william@epa.gov]; Samulski, Michael [samulski.michael@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Leggett, Cullen [Leggett.Cullen@epa.gov]; Mueller, John [mueller.john@epa.gov]; Thrift, Mike [thrift.mike@epa.gov]; Orlin, David [Orlin.David@epa.gov]; Burch, Julia [Burch.Julia@epa.gov]; Giannelli, Bob [Giannelli.Bob@epa.gov]; Maeroff, Bruce [Maeroff.Bruce@epa.gov]; Stevens, JeffreyA [Stevens.JeffreyA@epa.gov]; Yen, David [Yen.David@epa.gov]  
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Appointment

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**From:** Charmley, William [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=FB1828FB00AF42FFB68B9E0A71626D95-CHARMLEY, WILLIAM]  
**Sent:** 7/26/2018 9:31:59 PM  
**To:** Charmley, William [charmley.william@epa.gov]; Pagano (US), Peter A [peter.a.pagano@boeing.com]  
**Subject:** Call with Pete Pagano, Boeing  
**Location:** Pete will call Bill at 734-214-4862  
  
**Start:** 8/16/2018 6:00:00 PM  
**End:** 8/16/2018 7:00:00 PM  
**Show Time As:** Busy

**From:** Pagano (US), Peter A [mailto:peter.a.pagano@boeing.com]  
**Sent:** Friday, July 27, 2018 8:52 AM  
**To:** Charmley, William <charmley.william@epa.gov>  
**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Let's plan on that. August 16 at 2pm. Do you want to call me at the number below or do you have a number you would like me to use? Thanks and have a good weekend.

Peter A. Pagano  
Director, Environment  
The Boeing Company  
703-414-6486  
Email: [peter.a.pagano@boeing.com](mailto:peter.a.pagano@boeing.com)

**From:** Pagano (US), Peter A [mailto:peter.a.pagano@boeing.com]  
**Sent:** Thursday, July 26, 2018 3:49 PM  
**To:** Charmley, William <charmley.william@epa.gov>  
**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Bill

Thanks for the message. Glad to set up a call. The afternoon of the 8<sup>th</sup> works or the morning of the 9<sup>th</sup>. May 15 and 16 are fairly open for me too. Please let me know what's convenient for you.

All the best,

Peter A. Pagano  
Director, Environment  
The Boeing Company  
703-414-6486  
Email: [peter.a.pagano@boeing.com](mailto:peter.a.pagano@boeing.com)

**From:** Charmley, William [mailto:charmley.william@epa.gov]  
**Sent:** Wednesday, July 25, 2018 6:24 AM

**To:** Pagano (US), Peter A <[peter.a.pagano@boeing.com](mailto:peter.a.pagano@boeing.com)>

**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Dear Pete

Thanks for this outreach. I did catch up with Ben on this topic, but I would like to discuss with you sometime in the next few weeks. One of the questions I have is more background on the Aerospace Industries Association.

What is this Association, who are typical members, and to what extent are the associations views similar or different to Boeings?

I am in the office on and off this week and next week, but then back full time for the week of August 6, and most of the rest of August.

Do you have some open times the week of August 6 or the week of August 13 where we could schedule a 30 minute call?

Best regards,  
Bill

**From:** Pagano (US), Peter A [<mailto:peter.a.pagano@boeing.com>]

**Sent:** Monday, July 23, 2018 3:19 PM

**To:** Charmley, William <[charmley.william@epa.gov](mailto:charmley.william@epa.gov)>

**Subject:** FW: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Bill

FYI Hope your summer is going well. Just wanted to make sure you were aware of this meeting request...I spoke to Ben Hengst and I believe he mentioned to you but I would be happy to discuss and provide additional information.

All the best,

Peter A. Pagano  
Director, Environment  
The Boeing Company  
703-414-6486  
Email: [peter.a.pagano@boeing.com](mailto:peter.a.pagano@boeing.com)

**From:** Pagano (US), Peter A

**Sent:** Monday, July 23, 2018 3:17 PM

**To:** 'Rakosnik.Delaney@epa.gov' <[Rakosnik.Delaney@epa.gov](mailto:Rakosnik.Delaney@epa.gov)>

**Cc:** 'Lewis, Josh' <[Lewis.Josh@epa.gov](mailto:Lewis.Josh@epa.gov)>; 'Hengst, Benjamin' <[Hengst.Benjamin@epa.gov](mailto:Hengst.Benjamin@epa.gov)>

**Subject:** Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Delaney

The purpose of this message is to request a meeting with Assistant Administrator Wehrum to discuss aircraft emissions issues that are within the jurisdiction of the International Civil Aviation Organization's (ICAO) Environment Committee. OTAQ staff are actively engaged in policy formulation at ICAO as well as in developing domestic implementing regulations. Meeting participants would include representatives from Boeing; General Electric; and the Aerospace Industries Association. Attached below is a draft agenda which includes specific discussion topics. We are requesting Sept 19 or 20 as potential meeting dates because out of town participants for both companies will already be in DC for an industry meeting earlier in the week. We will work with you to find a convenient time that works for Mr Wehrum on either of those days. You should

know that I have already provided background regarding this request to OTAQ (Ben Hengst). Thank you in advance for your assistance and please let me know if any additional information would be helpful to you.

## **Ex. 5 Deliberative Process (DP)**

Sincerely,

Peter A. Pagano  
Director, Environment  
The Boeing Company  
703-414-6486  
Email: [peter.a.pagano@boeing.com](mailto:peter.a.pagano@boeing.com)



Message

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**From:** Samulski, Michael [samulski.michael@epa.gov]  
**Sent:** 8/13/2018 1:03:18 PM  
**To:** Charmley, William [charmley.william@epa.gov]  
**CC:** Manning, Bryan [manning.bryan@epa.gov]  
**Subject:** RE: AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

Bill,

We are not familiar with Rush O'Keefe.

However, you should know that Federal Express is ordering a lot of Boeing 767 freighters right now. The 767 will not meet the 2028 in-production CO2 standard in its current configuration. These freighters are based on an older aircraft that Boeing is phasing out from passenger service, so I doubt Boeing is planning on making efficiency upgrades.

Bruce looked up the current order book using Flight Global's Fleet Analyzer. Here are the results for Federal Express's known orders of 767s in the future:

## Ex. 5 Deliberative Process (DP)

On option is a lower commitment than on order, but gives an indication of their plans.

## Ex. 5 Deliberative Process (DP)

Mike

\*\*\*\*\*  
Michael Samulski  
U.S. Environmental Protection Agency  
Office of Transportation and Air Quality  
Director, Large Marine and Aviation Center  
1 (734) 214-4532  
samulski.michael@epa.gov  
\*\*\*\*\*

---

**From:** Charmley, William  
**Sent:** Sunday, August 12, 2018 9:47 AM  
**To:** Bynum, Cheryl <bynum.cheryl@epa.gov>  
**Cc:** Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Simon, Karl <Simon.Karl@epa.gov>  
**Subject:** Re: AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

Cheryl

Thanks, but there is no need for you to look up anything, now that I know this is an aircraft issue.

Thanks  
Bill

Sent from my iPhone

On Aug 11, 2018, at 11:44 AM, Bynum, Cheryl <[bynum.cheryl@epa.gov](mailto:bynum.cheryl@epa.gov)> wrote:

I can look in our database Monday am but name not ringing any bells. We generally work with folks on truck side.

Sent from my iPhone

On Aug 10, 2018, at 7:41 PM, Charmley, William <[charmley.william@epa.gov](mailto:charmley.william@epa.gov)> wrote:

Sent from my iPhone

Begin forwarded message:

**From:** "Lewis, Josh" <[Lewis.Josh@epa.gov](mailto:Lewis.Josh@epa.gov)>  
**Date:** August 10, 2018 at 5:55:08 PM EDT  
**To:** "Cook, Leila" <[cook.leila@epa.gov](mailto:cook.leila@epa.gov)>  
**Cc:** "Hengst, Benjamin" <[Hengst.Benjamin@epa.gov](mailto:Hengst.Benjamin@epa.gov)>, "Charmley, William" <[charmley.william@epa.gov](mailto:charmley.william@epa.gov)>  
**Subject:** Re: AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

It's aircraft co2. Boeing (Pete Pagano) will also be there. Fed ex has one plane in particular they want to discuss with bill/Otaq. I likely have some more info in email that I'll dig out.

There's also a tote meeting that popped up...which you've probably already seen

On Aug 10, 2018, at 5:29 PM, Cook, Leila <[cook.leila@epa.gov](mailto:cook.leila@epa.gov)> wrote:

Hi Josh,

Today OTAQ received an invite referenced below for Bill W.' meeting with FEDEX on 8/15. There is no information in the appt and at the moment we are not thinking we know what the subject might be. In Bill's public calendar we located another FedEx meeting from 7/25<sup>th</sup>. We don't know whether they have any relationship. Anything you can pass along would be greatly appreciated.

Lee

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**From:** Charmley, William  
**Sent:** Friday, August 10, 2018 5:24 PM

**To:** Grundler, Christopher  
<grundler.christopher@epa.gov>  
**Cc:** Samulski, Michael <samulski.michael@epa.gov>;  
Manning, Bryan <manning.bryan@epa.gov>; Cook, Leila  
<cook.leila@epa.gov>; Hengst, Benjamin  
<Hengst.Benjamin@epa.gov>; Simon, Karl  
<Simon.Karl@epa.gov>; Bynum, Cheryl  
<bynum.cheryl@epa.gov>  
**Subject:** RE: AA Wehrum (& OTAQ) meeting with  
Federal Express Senior VP & General Counsel Rush  
O'Keefe on Tuesday, August 15

Chris –

I just saw on AA Wehrum's public calendar the following  
entry –

Can you, Ben or Lee look at AA Wehrum's internal  
calendar – maybe the meeting next week on the 15<sup>th</sup> is  
related to the meeting AA Wehrum had on July 25 with  
FedEx.

Thanks  
Bill

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### Wednesday, July 25, 2018

9:00AM	Meeting with FedEx Corporation	EPA Headquarters
9:45AM	Staff Briefings	EPA Headquarters
1:00PM	Meeting with Chemours	EPA Headquarters
2:00PM	Staff Briefings	EPA Headquarters

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**From:** Charmley, William  
**Sent:** Friday, August 10, 2018 5:14 PM  
**To:** Grundler, Christopher  
<grundler.christopher@epa.gov>  
**Cc:** Michael Samulski (samulski.michael@epa.gov)  
<samulski.michael@epa.gov>; Manning, Bryan

<manning.bryan@epa.gov>; Cook, Leila  
<cook.leila@epa.gov>; Hengst, Benjamin  
<Hengst.Benjamin@epa.gov>; Simon, Karl  
(Simon.Karl@epa.gov) <Simon.Karl@epa.gov>; Bynum,  
Cheryl <bynum.cheryl@epa.gov>

**Subject:** AA Wehrum (& OTAQ) meeting with Federal  
Express Senior VP & General Counsel Rush O'Keefe on  
Tuesday, August 15

Dear Chris –

This afternoon you, Ben, Lee and I received an invitation  
from AA Wehrum for a meeting that AA Wehrum has on  
Tuesday with Ruch O'Keefe, a Senior VP and General  
Counsel for FedEx Express.

I don't know what this meeting is about, but I think that  
perhaps we heard AA Wehrum mention this person's  
name in the past month or two regarding aircraft – but I  
just can't remember. I have included Bryan and Mike in  
case they know anything about Mr. O'Keefe in the  
context of aircraft and/or ICAO. I have also included  
Karl and Cheryl – as I know that FedEx is a SmartWay  
member, so maybe they know Mr. O'Keefe.

In the heavy-duty Phase 1 and Phase 2 rulemaking, the  
group organized by Pat Quinn, the "Heavy-duty  
Leadership Group" included Fed Ex, and for that group  
FedEx was primarily represented by Mitch Jackson, who  
is a VP for Environmental Affairs and the Chief  
Sustainability Officer for FedEx Corporation.

That's what I know on this.

Thanks  
Bill

Message

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**From:** Weinstock, Larry [Weinstock.Larry@epa.gov]  
**Sent:** 10/25/2018 8:02:55 PM  
**To:** Rosenberg, Julie [Rosenberg.Julie@epa.gov]; Benedict, Kristen [Benedict.Kristen@epa.gov]; Snyder, Carolyn [Snyder.Carolyn@epa.gov]; Rowson, David [Rowson.David@epa.gov]; Smith, Alisa [Smith.Alisa@epa.gov]; Dickerson, Phil [Dickerson.Phil@epa.gov]; Hengst, Benjamin [Hengst.Benjamin@epa.gov]; Charmley, William [charmley.william@epa.gov]; Culligan, Kevin [Culligan.Kevin@epa.gov]; Shoaff, John [Shoaff.John@epa.gov]  
**Subject:** FW: CAAAC meeting summary  
**Attachments:** CAAAC Meeting Summary 9-2018.docx

Attached is the meeting summary please let me know if you have any comments or edits by COB November 2<sup>nd</sup>.

FYI, I will be sending this to the CAAAC members for their comments and edits after I make any changes you feel are necessary.

Larry Weinstock  
Program Innovation Coordinator  
Office of Air and Radiation  
202-564-9226

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**From:** Lesley Stobert [mailto:lstobert@scainc.com]  
**Sent:** Thursday, October 25, 2018 3:19 PM  
**To:** Weinstock, Larry <Weinstock.Larry@epa.gov>  
**Subject:** CAAAC meeting summary

Hi Larry,  
Attached is the draft September CAAAC meeting summary. Let me know if you have comments or edits for us to make.

Thank you,  
Lesley Stobert  
984-234-3972

  
[www.scainc.com](http://www.scainc.com)

This email may contain privileged and confidential information intended only for the use of the specific entity named herein.

Federal Advisory Committee Act  
**Clean Air Act Advisory Committee**  
**Meeting Summary**

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September 26-27, 2018  
*The Holiday Inn, Ballston*  
*Arlington, VA*

**Opening Session**

Mr. Larry Weinstock with the EPA's Office of Air Policy and Program Support called the meeting to order at 1:00 pm on September 26, 2018. Mr. Weinstock welcomed everyone to the meeting and thanked attendees for taking the time to attend this meeting. Mr. Weinstock introduced himself as the new Clean Air Act Advisory Committee (CAAAC) Designed Federal Officer (DFO). Mr. Weinstock will be acting as the liaison between the CAAAC board and the Environmental Protection Agency (EPA). The purpose of the meeting is to present and discuss the Office of Air and Radiation (OAR) initiatives. More information on the purpose of the committee is available on the CAAAC website (<https://www.epa.gov/caaac>). The CAAAC website will also include all the presentations that will be given today. A summary of the meeting will be available on the CAAAC website within 90 days. Mr. Weinstock acknowledged that in addition to the folks attending the meeting in person, there are additional people joining via the phone. Per the Federal Advisory Committee Act, or FACA, which the CAAAC is chartered under, there will be an opportunity for public comment at the end of the meeting.

Mr. John Shoaff, the Director of the EPA's Office of Air Policy and Program Support introduced himself and noted that he will be the facilitator of the group today and tomorrow. Mr. Shoaff thanked everyone for being present and asked the committee members to introduce themselves. The list of meeting attendees is provided as Attachment A to this summary. The meeting agenda is provided as Attachment B.

**Presentation: AirNow Update**

Mr. Phil Dickerson with the EPA's Office of Air Quality Planning and Standards (OAQPS) provided a summary of the AirNow system, which Mr. Dickerson has been involved with since the inception of the system in 1998. AirNow is a year-round 24/7 system that provides real-time ozone and particle data for 50 states, six Canadian Provinces, and 24 U.S. National Parks. Based on data originating from state and local agencies, the system provides next-day Air Quality Index (AQI) forecasts for nearly 500 cities. Mr. Dickerson noted that several audiences are served by this system, including the public, governmental agencies, emergency responders, and researchers. He noted that AirNow receives much higher viewer volumes during wildfire events, as realtime data from the U.S. Forest Service is shown through the system. The EPA is working with other countries to share data and to help them develop systems similar to AirNow. Mr. Dickerson showed the Department of State monitors that report to the AirNow

system and added that the Village Green benches also report to AirNow. Mr. Dickerson noted that the AirNow.gov website has recently been redesigned, and he gave a live demo of the newly updated AirNow website. He highlighted the fact that the new site immediately displays local Air Quality Index meter, which was based on research to determine what users wanted to see and how they used the former site.

### *Comments and discussion*

A CAAAC member asked if the new system allows the option to compare two locations. Mr. Dickerson answered that the system allows for comparison through the AirCompare page. He also clarified that the data comes from the state and local agencies who run the monitors, and those state and local agencies determine which monitor's data to display on the AirNow site for a specific location. Mr. Dickerson illustrated the current site with the dial display for Arlington, Virginia. He showed that information is provided on the bottom of the page indicating which state and local agencies submitted the data for that site.

Mr. Gary Jones (Specialty Graphic Imaging Association) asked whether the system would show graphs of both particulate matter (PM) and ozone concentrations. Mr. Dickerson replied that the system will only show graphs of one pollutant at a time.

Mr. Robert Morehouse (Air Permitting Forum) asked what the system shows if there is no monitor near the user and how far the monitors' reach is. Mr. Dickerson responded that if data is requested for a location over 50 miles from a monitor, the state page will be shown.

Mr. Morehouse asked how far back the historical data goes. Mr. Dickerson replied that a user can only look back one to two years on AirNow, and to get data going further back, the user would need to go to the EPA's Air Quality System website.

Mr. Morehouse asked how the AirNow system defines "good," "poor," etc. air quality and whether the ratings were related to the ambient air standards. Mr. Dickerson remarked that AirNow uses NowCast, which relates the hourly measurements from the monitors to the air quality standards. He also noted that the hours are weighted depending on how fast the concentrations are changing.

Mr. Shoaff asked whether there had been any surprises from the website refresh. Mr. Dickerson responded that the biggest issue they had heard about was that people's bookmarks for the old site no longer work.

Ms. Patty Strabbing (Chrysler) asked whether AirNow will incorporate any new monitors that are set up. Mr. Dickerson replied that states can add new monitors whenever they want, and the AirNow system will automatically use the new monitors.

### **Presentation: Tools for State and Local Government**

Ms. Julie Rosenberg (EPA) was the first of a group of three presenters to provide an overview of energy efficiency (EE) and renewable energy (RE) tools and resources the EPA has

developed for state and local governments to use to achieve their air quality goals. Ms. Rosenberg noted that there are 26 state EE Resource Standards, 29 state Renewable Portfolio Standards, and over 80 cities and counties have committed to using 100 percent renewables. Many state and local agencies have EE/RE policies and programs for a variety of reasons, including emissions, energy, economic, public health and sustainability goals. Ms. Rosenberg emphasized that quantification of emissions impacts from EE/RE is an area that state and local agencies have requested assistance with, and the focus of the EPA's recent tools development work has been on quantification tools. The tools and resources the EPA has developed in this context are free and non-proprietary. Two of these tools include the Avoided Emissions and geneRation Tool (AVERT) and the CO-Benefits Risk Assessment (COBRA) health impacts and screening and mapping tool, which can be used in conjunction with each other.

Ms. Robyn DeYoung (EPA) gave a summary of AVERT, the tool the EPA has created to quantify the emissions benefits of EE/RE programs. The EPA found that there are other tools available, however these include basic methods, such as the Emissions & Generation Resource Integrated Database (eGRID), and sophisticated energy models that require many inputs and data. To fill the gap between the basic methods, which might not provide enough information, and sophisticated methods, which require modeling experts and lots of input data, the EPA created an intermediate method. This system, AVERT, is an Excel workbook that uses historical hourly emission rates and user inputs about energy saved with EE programs or the capacity of RE installations to estimate the emissions avoided through the EE/RE programs. AVERT 2.0 is accessible through the web and is available in a phone app version. Tools and training for AVERT is available at <https://www.epa.gov/avert>.

Ms. Denise Mulholland (EPA) continued the presentation with an overview of COBRA. The COBRA tool provides insight into the health impacts associated with EE/RE programs by estimating illnesses and deaths avoided, as well as the economic value associated with emission decreases. It is a screening-level tool that can be applied by a range of different users, including financial institutions, state regulators, utilities, etc. According to Ms. Mulholland, while there are usually good estimates associated with the costs of EE/RE programs, the benefits of these programs are difficult to estimate and fewer tools are available to assist with these analyses. The COBRA tool is available at <https://www.epa.gov/COBRA>.

Ms. DeYoung concluded the presentation of the EPA-developed EE/RE tools by conducting a phone demonstration of AVERT. She noted that the AVERT results (annual emissions reductions) can be directly input into COBRA.

### *Comments and discussion*

Mr. Frank Prager (Xcel Energy) stated that his company does a great deal of resource planning and sophisticated analysis and expressed concern about the results of AVERT being compared with the results of the more detailed analyses. Specifically, Mr. Prager noted concern with the accuracy of the results and the age of the data used by the model. Ms. DeYoung acknowledged that there are limitations to AVERT in terms of what it should and should not be used for, e.g., it should not be used for more looking more than five years in the future. She noted that the AVERT tool is a good screening tool and gives good "ballpark" estimates, but this should be



followed by more rigorous analysis, if needed. Mr. Prager stressed that it is important for the EPA to communicate the limitations of the AVERT tool, especially to policy makers.

Mr. Bob Wyman (National Climate Coalition) commented that if the proposal for the power sector moves forward, state and local agencies will be making plans. He asked whether these tools could be used to track data and allow trading across states for power sector emissions. Ms. Rosenberg responded that the EPA had not thought about the tools being used in that way, but that they would examine this as a possible use.

Mr. Dan Greenbaum (Health Effects Institute) asked how AVERT and COBRA compare to BenMAP – the environmental Benefits Mapping and Analysis Program (<https://www.epa.gov/benmap>). He also stated that with COBRA, the sense of uncertainty in the results is lost, and he asked how the uncertainties are presented. Ms. Rosenberg indicated that the tools correlate closely with BenMAP but noted that COBRA does not include ozone as a pollutant. She also responded that COBRA does try to convey uncertainty and how the results should be used.

Mr. Morehouse asked whether COBRA has information on its limitations discussed somewhere. He added that the National Air Toxics Assessment (NATA) highlights the limitations of its data and suggested that something similar could be done for COBRA. Ms. Rosenberg indicated that there is a user manual and that all assumptions used to develop the tool are available from the user manual. She added that it may also be possible to include some of this information on the model output pages.

Mr. Dave Foerter (Ozone Transport Commission) noted that the EPA Clean Air Markets Division (CAMD) data is for units of 25 megawatts (MW) or larger and he asked how the smaller units (less than 25 MW) are dealt with in the tools. Ms. DeYoung indicated that smaller units are currently not included because the EPA does not have hourly information for those units. However, users can add that data to the model if they have the information available.

In the context of the COBRA outputs, Mr. Steven Marcus (Rutgers University) commented that prevalence rather than incidence provides a better idea of the health effects. Further, Mr. Marcus observed that the only health impacts related to children represented in the material the EPA presented was infant mortality. He stated that due to this, the health effects to children are most likely under-represented.

Ms. Roxanne Brown (United Steelworkers) asked how many people are using the tools and additionally asked if the only renewable projects in AVERT are wind and solar installations. Ms. DeYoung said that there have been more than 1,200 AVERT downloads and 80 citations in public reports and articles of use of the tool. There have been around 1,000 downloads for COBRA, according to Ms. DeYoung. In response to Ms. Brown's first question, the EPA indicated that data for wind and solar projects had been entered into the tool, making the results for those projects easier to obtain, but the tool has the capability to do other things, such as biomass, but that would require more user input.

Ms. Sara Hayes (American Council for an Energy-Efficient Economy) expressed that she has used this tool many times and noted that she has used the tools in combination with other models and also in comparing projects across cities.

### **Presentation: Overview of new SAFE standard**

Mr. Bill Charmley (EPA) presented an overview of the new Safer Affordable Fuel-Efficient (SAFE) Vehicles rule (presentation available at <https://www.epa.gov/caaac>). On August 2, 2018, the EPA and the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) issued a notice of proposed rulemaking for the SAFE Vehicles rule for model years 2021-2026 passenger cars and light-trucks. Mr. Charmley showed a graph highlighting the improvement in light-duty vehicle CO<sub>2</sub> emissions rates over time, which started in the mid-1970's. Mr. Charmley noted that this trend is expected to continue with the EPA's current CO<sub>2</sub> standards through 2025. Mr. Charmley next gave an overview of the midterm evaluation process. The 2012 rule which finalized standards for model years (MY) 2017-2025 included a commitment to conduct a mid-term evaluation of whether the standards for model years 2022-2025 remained appropriate. An initial determination was made in January 2017 that the 2022-2025 standards remained appropriate, but this determination was reconsidered, and the EPA determined in April 2018 that the 2022-2025 standards are not appropriate. The EPA and NHTSA worked together to set appropriate standards, and proposed the SAFE Vehicles rule in August 2018. This proposed rule would reduce the stringency of MY2021-2026 to the MY2020 levels. The EPA is also proposing to withdraw the Clean Air Act waiver for California's greenhouse gas (GHG) and zero emissions vehicle standards. Mr. Charmley indicated that the existing EPA CO<sub>2</sub> standards average around a 4.7 percent stringency increase from model years 2020-2025, and several regulatory alternatives to this level of stringency were discussed in the proposal, with requests for public comment. The impacts associated with the proposed SAFE Vehicles standards are estimated to be a national net benefit of \$290 billion. Mr. Charmley highlighted the EPA's request for comment on a number of topics, including incentives and credits designed to assist in providing manufacturers flexibility in meeting the standards. Mr. Charmley noted that there were three public hearings on the rule and that the public comment period ends on October 26, 2018.

### *Comments and discussion*

Mr. Mitch Hescox (Evangelical Environmental Network) asked whether there were increased health risks associated with the decrease in stringency and whether these were assessed. He also asked why this rule included provisions to not allow California to set more stringent standards. Mr. Charmley responded that as fuel efficiency increases, there is also an increase in driving, which leads to more pollution upstream associated with more refining activities. He noted that more information about this is in the regulatory impact analysis for the rule. Mr. Hescox commented that with an increase in CO<sub>2</sub>, there would likely be an increase in other pollutants also, and this would seem to result in more deaths. Mr. Charmley replied that the estimate of 1,000 deaths avoided is due to cheaper vehicles being available, which increases fleet turnover and to quicker use of vehicles with enhanced safety features. He noted that these 1,000 deaths avoided dwarfs the health impacts associated with pollution increases. Mr. Bill Wehrum (EPA) added on the issue of California standards, that while the Clean Air Act (CAA)

is clearly an exercise in cooperative federalism, cooperative federalism was not intended by congress to apply to this rule (i.e., the SAFE rule). In this case, congress says that states are preempted from vehicle regulation. While historically California has been allowed to create more stringent standards due to its local air quality problems, the case here is not unique to California. There is nothing unique or extraordinary with respect to greenhouse gas (GHG) emissions in California.

Mr. Wyman commented that there are very different views on the modeling and cost analyses done for this rule. He also remarked that this rule is not in line with what the automakers are currently doing and trying to do for future models. He expressed that the previous rulemaking included coordination with the regulated community, and the subsequent proposed rule benefitted greatly from that process.

Ms. Nancy Kruger (National Association of Clean Air Agencies) asked where the technical analysis is for the proposal. Mr. Wehrum indicated that there is one for the midterm evaluation and that it was concluded for the midterm evaluation that the fundamental assumptions are different. The price of gas is different, vehicle choice has changed, and the use of electric cars is not as high as predicted. Based on that, former Administrator Scott Pruitt determined that another rulemaking was needed. The EPA is proposing a range of options and is open to comments, Mr. Wehrum emphasized. Ms. Kruger noted that there is no Technical Assessment Report or an opportunity for stakeholders to provide input on the analysis. Mr. Wehrum replied that the Agency is doing things differently now and following a more traditional path with this rulemaking. The Agency has had a lot of conversations with different parties and believes that the best process is to conduct the analysis, then draft the reconsideration proposal rather than proceed through a regulatory negotiation-like process that had been followed in the past. Ms. Kruger stressed that a 60-day comment period does not allow for robust involvement from the regulated community and stakeholders. In response, Mr. Wehrum stated that essentially the comment period was longer, attributing an additional 3 weeks of comment time when the proposal was available online before being published in the Federal Register. Mr. Wehrum added that the rule is complex, but that NHTSA has to put the Corporate Average Fuel Economy (CAFE) standards into place ahead of the model year, and there is not an unlimited amount of time available.

Mr. Steve Flint (New York Department of Environmental Conservation) commented that it was nice to have the chance to talk here for more than the three minutes that was allotted at the public hearings for the SAFE Vehicles rule. He indicated that this is a joint rulemaking between EPA and NHTSA, but he is concerned that the regulation is dominated by NHTSA. Mr. Flint asked how the EPA expects to meet the endangerment findings and criteria pollutant requirements. Mr. Wehrum expressed that under the CAA there is a lot of flexibility, and the EPA needs to give adequate weight to all the considerations. The ever-increasing stringency of pollution standards makes vehicle costs increase, and people are driving older, less safe cars. We are the EPA, Mr. Wehrum asserted, but the Agency needs to consider all the costs and benefits, including highway safety. He added that regardless of how the stringency of the standards change, GHG emissions will continue to be reduced.

Ms. Brown spoke from the steel workers and jobs perspective, indicating that the steel workers

represent the largest union in the automobile sector. From her group's perspective, they see existing standards driving investments into domestic facilities. Since 2008 there has been an increase in jobs, and Ms. Brown indicated that the steel workers would like to see the domestic automaker industry continue this trend. Mr. Charmley responded that the EPA did try to quantify the jobs impacts, but he noted they had difficulty in quantifying the impacts on innovation.

Mr. Adrienne Shelley (Air Alliance Houston (via phone)) echoed some earlier comments made, that it seems certain effects and impacts associated with the proposed rule are not present in the material today. For instance, Mr. Shelley asked what the co-pollutant effects were and specifically what the co-pollutants (e.g., nitrogen oxides (NO<sub>x</sub>)) impacts are in non-attainment areas.

### **Presentation: Overview of Affordable Clean Energy (ACE) Proposal**

Mr. Kevin Culligan (EPA) spoke next on the Affordable Clean Energy (ACE) proposal (presentation available at <https://www.epa.gov/caaac>). The ACE rule empowers states to reduce CO<sub>2</sub> emissions and would replace the Clean Power Plan (CPP). There are several components to the rule, which are related to reducing emissions from coal-fired power plants. An Advanced Notice of Proposed Rulemaking for this rule was published in December 2017 and received over 270,000 comments. Mr. Culligan displayed a graph of emissions trends in the power sector, showing that CO<sub>2</sub> emissions have been dropping since 2005 due to market forces, technology improvements and policy changes. He noted that the ACE rule would continue this trend, pushing CO<sub>2</sub> power sector emissions to about 34% less than 2005 levels. He noted that the ACE clarifies EPA and state roles and works via four main actions: defining the best system of emission reduction (BSER), listing candidate technologies, providing adequate time and flexibility to develop state plans, and revising the New Source Review (NSR) permitting program. For the two first actions, the EPA determined the BSER and proposed a list of candidate technologies states would need to consider in establishing performance standards. The ACE rule would require states to develop and submit plans to the EPA for the standards of performance they would establish. The rule includes timelines for state plan submittals and allows states to include compliance flexibility in their plans. On NSR, the rule proposes new applicability tests to determine whether a change at a power plant is a "major modification" and would give states the option to adopt an hourly emissions increase test along with the annual emissions test required by NSR. The costs and benefits of the rule are explained in the regulatory impact analysis (RIA). The RIA includes different scenarios to account for the flexibility of the rule but shows that CO<sub>2</sub> emissions would decrease under each scenario. The costs of the rule are estimated to be \$3.4 less than the CPP costs. Mr. Culligan noted that the comment period deadline for the proposal is October 31, 2018, and the date for the public hearing is set for October 1, 2018.

### *Comments and discussion*

Mr. Hescox asked what the health costs are related to the ACE rule and questioned the 1,400 additional premature deaths figure that are predicted for this rule over that of the CPP, which he said is an incredible loss of life. Mr. Culligan stated that the emissions reductions predicted for

the CPP cannot be achieved because the EPA does not have the authority to require all the elements of the CPP. He also said that the rule is really about GHG emissions and added that the EPA has more authority to address pollutants outside of CAA section 112(d) through other programs. Mr. Hescoc agreed, but he stated that the EPA has not addressed those co-pollutants through the other programs. He remarked that the mission of the EPA is to protect public health and the environment, and he thinks it is troubling that the EPA is not fulfilling that mission with rules like the ACE. Mr. Culligan noted that the biggest driver to particulate emissions is sulfur dioxide (SO<sub>2</sub>), and emissions of this and other pollutants have already been significantly reduced through many other EPA programs. He added that the EPA is continuing to address all of these pollutants through other programs.

Mr. Prager commented that he is glad to have a replacement rule and believes that having a replacement rule is the right decision. Mr. Prager stressed that the EPA should consider the issue of state authority and take a broader perspective on this issue. He stated that the EPA should consider allowing states the flexibility to go beyond the facility fence line. Some of the options, such as heat rate improvements will force some owners and operators to close plants. However, he said that if broader, beyond-the-fence line strategies are allowed, there are other opportunities, like using more renewable energy, to reduce emissions. Mr. Culligan responded that while this and some other policy suggestions seem like good ideas, the EPA must act within its CAA authority.

Mr. Dan Nickey (Iowa Waste Reduction Center) asked if the EPA has considered the impact of the rule on small businesses. Mr. Culligan indicated that the EPA typically does an analysis under the Small Business Regulatory Enforcement Fairness Act (SBREFA) when the EPA is directly regulating small businesses, but one was not done for this rule since the EPA is not the direct regulator.

Mr. Bob Wyman echoed Mr. Prager's suggestions in terms of state flexibility and incorporating portfolio programs that extend across states. He noted that states have broad authority in the context of State Implementation Plans (SIPs) to do outside-the-fence line requirements. Mr. Culligan agreed that those could be good programs for states to implement, but how that relates to BSER is unknown and whether BSER must relate to that are currently two unanswered questions.

Mr. Tomás Carbonell (Environmental Defense Fund) asserted that the ACE rule is unlawful and that his organization will be submitting comments. He also asked if the effects the BSER will have on the NSR program have been evaluated. Mr. Culligan replied that the EPA focused on heat rate improvements, particularly with where they thought they would apply and the likely actions that would be taken to get these improvements. He stated that the EPA would welcome comments on this, as it is not clear that there are any other types of projects to consider.

Mr. Greenbaum commented that there have been many rules and programs that have reduced emissions and provided health benefits. He stated that emissions and health benefits should be considered in a broad context in terms of determining which types of stationary sources are still causing problems and how those should be addressed. Mr. Wehrum responded that the EPA "keeps score" by seeing who is meeting the National Ambient Air Quality Standards (NAAQS)

and who is not. He also said that there is a paradox here, because they predict that there will be health benefits by reducing emissions below the levels of the NAAQS, which are supposed to be the levels that protect human health. He noted that a dialog has started within the EPA to reconcile these two thoughts.

Mr. Morehouse commented that on NSR, it would be best to design the program so that all industries, not just electric utilities, will do plant upgrades without the NSR problems that are being addressed in the ACE rule.

Ms. Lynne Liddington (Knox County Health Department) said that her county has endured non-attainment and came into attainment due to the NOx State Implementation Plan (SIP) call. She noted that there are other issues contributing to non-attainment, like transport. She stated that her area wants to stay in attainment, and she hopes that the EPA will develop rules that make continued attainment a possibility.

### **Presentation: OAR Overview & Update on Priorities**

Mr. Wehrum presented an overview and update on priorities of the EPA's Office of Air and Radiation (presentation available at <https://www.epa.gov/caaac>). Mr. Wehrum indicated that this presentation is meant to be a conversation starter and that he was interested in questions and comments from the CAAAC. Mr. Wehrum pointed to a graph of air quality trends from 1970 until today, showing that there has been a huge decline in emissions in this time period. He stated that as debates about emissions and health continue, the significant progress that has been made should not be forgotten. In terms of the ACE and SAFE rules, Mr. Wehrum strongly urged CAAAC members to submit comments on these rules. Comments on ACE are due by October 31, 2018 and by October 23, 2018 for the SAFE rule. Other OAR priorities include the oil and gas New Source Performance Standards (NSPS), the NAAQS, the Mercury and Air Toxics Standards (MATS), and NSR and permitting reform. In terms of the oil and gas rule, the targeted improvements proposal was published on September 11, 2018. The proposal addressed near-term issues and additional fixes, and the EPA will take a hard look at the comments that are currently coming in to the Agency. With respect to the NAAQS, this is always a big issue according to Mr. Wehrum, and the Agency is conducting an accelerated review of the 2015 ozone standard. Mr. Wehrum added that the EPA is trying to provide additional help to states under the SIP reform. Another OAR priority is the Mercury and Air Toxics Standard (MATS) rule, which the Agency is reviewing. Mr. Wehrum concluded his overview of OAR priorities by indicating that all the work that has been discussed takes a lot of effort, but that he feels that there has been a lot of progress made.

### *Comments and discussion*

Mr. Mike Rochford (Caterpillar) asked about the status is of the once-in-always-in (OIAI) policy. Mr. Wehrum explained that a memo was issued saying that the OIAI policy no longer applies. He noted that the memo also said the EPA would do a rulemaking to reflect this policy, and he believes the proposal should be published sometime this fall.

Mr. Prager asked about the status of the Regional Haze program. In response, Mr. Wehrum

replied that the regional haze program was significantly misapplied under the previous administration. He stated that the purpose of the program is to improve visibility in national parks. The EPA is currently working on three things to address regional haze: (1) resolve the controversy from the first planning period, (2) meet with states and other agencies to get feedback on whether there were problems for the first planning period, and (3) apply a new perspective to implementation of the program based on the years of experience since 1998 when the program began. Mr. Wehrum added that the Administrator signed the Regional Haze Reform Roadmap memo a few weeks ago.

Ms. Mary Peveto (Neighbors for Clean Air) commented that she questions the assumptions made in the SAFE rule regarding pollution vs. traffic fatalities in determining the overall impacts of the rule. She also expressed concern that while there have been overall improvements in air quality, there are still areas that have not seen as much progress, including Environmental Justice (EJ) communities and areas impacted by urban air toxics. She also noted that the states do rely on the EPA to develop and implement technology-forcing standards.

Mr. Tim Hunt (American Forest and Paper Association and American Wood Council) thanked the OAR Assistant Administrator for the direction the Agency is taking on air permitting and NSR reform, but he thought an additional area for improvement would be with the modeling aspects of the program and suggested that some modeling assumptions could be systematized. Mr. Wehrum responded that the EPA is seeking a balance with the tools that support decision making, in that they should provide information about potential scenarios and impacts without being overly conservative. The EPA is trying to make NSR be a better tool under the CAA to achieve results that make sense.

Mr. Jones asked if the EPA's direction on the once-in-always-in policy would be expanded to other pollutants, such as for ozone NAAQS implementation. Mr. Wehrum said that the Agency has not thought of this policy extending beyond the MACT program, but he would be interested to hear about other programs that may have similar issues. With respect to ozone NAAQS implementation and state flexibility, the EPA is interested in empowering states to develop their own solutions to ozone issues, such as interstate transport. The role of the EPA in this could be to provide state agencies with analytical tools so they may can make their own rules and policies with confidence.

Mr. Jones asked a follow-up question regarding ozone and whether the EPA is working on the issues of foreign transport and background concentrations. Mr. Wehrum replied that the EPA is working on background concentrations, including background concentrations from international transport and true background, like wildfires. He noted that most of the causes of background concentrations, such as wildfires, are covered under the exceptional events provisions. However, some areas of the country, like Texas, are impacted by foreign transport.

Ms. Mary Uhl (Western States Air Resources Council) expressed that she appreciated seeing the Regional Haze Road Map. Ms. Uhl asked if there is any way the Regional Haze Map could be brought into OAR priority for amendments, stating that it would be better to not have guidance be issued at the end of the process, since states are already working on their analyses. Mr. Wehrum acknowledged the request and stated that the Agency is aware of the schedule and

is moving as expeditiously as possible.

Mr. Ted Steichen (American Petroleum Institute) stated that there is a lack of transparency in terms of the progress being made on the NAAQS outside of the EPA's Office of Air Quality Planning and Standards. He asked whether the Science Advisory Board or the Clean Air Scientific Advisory Committee (CASAC) had been consulted. In Mr. Steichen's opinion, there are things missing regarding the NAAQS review process and it is unclear how the deadline on ozone and particulate matter (PM) will be met. Mr. Wehrum indicated that former EPA Administrator Mr. Scott Pruitt made it clear that the ozone standards will get done on time, and the current Acting Administrator, Mr. Andrew Wheeler, is supportive of this. According to Mr. Wehrum, the EPA is also going to try to catch the PM standards up to the ozone standards timeline, which may require doing things a little differently within the Agency, such as potentially not going to the CASAC so many times in the rule development process.

Mr. Morehouse mentioned that the Office of Management and Budget (OMB) has had some rules in the review process for a long time and asked whether the EPA was working with them to try to smooth this process. Mr. Wehrum responded that the EPA has given the OMB many rules to review, so the long review time has not been due to disputes but rather that the OMB has so many rules to review.

Mr. Flint commented that it is better to get rules done correctly rather than quickly (referring to the NAAQS). He also commented that the information available so far on how to handle transport is inadequate. Mr. Wehrum replied that it is imperative that the EPA get the NAAQS done correctly, but there are also deadlines for the NAAQS reviews that must be met. He stated that the EPA may need to develop a better process to get these reviews done on time.

### **Public Comments**

Mr. Shoaff asked if there were any comments from the audience, and there were no questions or remarks from the public.

### **Meeting Adjourned**

The meeting was adjourned for Wednesday, September 26, 2018, and was scheduled to resume on Thursday, September 27, 2018 at 8:30am.

### **Welcome to Day 2 (September 27, 2018)**

Mr. Shoaff introduced the second session of this two-part meeting at 8:30am on September 27, 2018. The topic for this session of the meeting was presentations and discussion of air quality sensors. He noted that a conference on the subject was recently held in Oakland, California.<sup>1</sup> In addition to different EPA presentations on the topic and 5-minute lightning round presentations by select CAAAC members, there is also a list of six specific charge questions (see Attachment B) the EPA sought feedback on.

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<sup>1</sup> <https://asic.aqrc.ucdavis.edu/>.



### **Presentation: Sensors Overview**

The first presenter on air sensors was Ms. Kristen Benedict (EPA) who gave the EPA's perspective on air sensors (presentation available at <https://www.epa.gov/caaac>). Ms. Benedict described the EPA's traditional process of collecting air quality data, which involves collecting, storing, sharing and communicating about the data collected. She stated that the EPA is going to continue gathering data in this way but will be able to share and communicate differently. Ms. Benedict showed the extent of ambient PM monitoring in October 2016, sensor vendor PM monitoring in August 2018, and she showed a brief video showing a visual representation of NO<sub>2</sub> emissions in California. According to Ms. Benedict, air sensors can be broadly grouped into three different categories: low, medium and regulatory-grade, and some air sensors are also pollutant-specific. The topic of air sensors is generating a lot of interest both domestically and internationally, and Ms. Benedict referred to the recent 2018 Air Sensors International Conference and the website where the PowerPoint presentations are available (<https://asic.agrc.ucdavis.edu/>). Ms. Benedict noted many applications for air quality sensors, as found through a literature review and also listed a few opportunities for their use. She noted that one important question is how to use air sensors during exceptional events, such as wild fires. In terms of advancing sensors, the EPA recently held a workshop to discuss sensor performance targets. Data quality is an issue, as there are questions about the precision and accuracy of the sensors and also about how well the sensors perform in different meteorological conditions and over time. Overall, there is consensus that sensor certification is needed, but there is continued discussion about certification protocols and by whom the certification should be performed. Ms. Benedict noted that there are also international sensor initiatives going on in Europe, China, and some low- and middle-income countries where there is an interest in characterizing air quality.

Sensor data management is another issue the EPA is working to address. There are questions regarding privacy, security, ownership, format and storage. Data interpretation and communication is also an issue, and there are currently several different platforms used to show similar data. Ms. Benedict noted that the EPA is also tracking emissions monitoring legislation in California by the California Air Resources Board, South Coast Air Quality Management District, and the Bay Area Air Quality Management District. Ms. Benedict wrapped up her presentation on EPA's perspective on air sensors by indicating that the Agency is planning to publish a policy memo this fall/winter to address recent questions from state and local agencies regarding the use of air sensor data.

### **Presentation: Outdoor Project Examples**

Ms. Gail Robarge (EPA) next presented an overview of the EPA's air sensors research. Ms. Robarge indicated that there is a vast array of work being done that includes collaboration with several parties. Of high importance is the understanding of sensor performance in laboratory-controlled environments compared with performance in the field. Ms. Robarge highlighted a field evaluation in Denver, in which the performance of seven sensor models were compared with reference sensors. Some key findings from sensor performance testing showed good performance for some sensors on the market, but other have highly variable results. However, the sensors in the field were affected by temperature, humidity and high pollutant

concentrations. Ms. Robarge also noted that another sensor study is being conducted to investigate the extent of pollution at the local scale related to one primary source (i.e., a railyard in Kansas City). The EPA and partner agencies also held a contest where the goal was to develop a sensor that could continuously monitor high concentration events in difficult field conditions (i.e., in or near wildfires) and report wirelessly. Ms. Robarge mentioned community air monitoring that has seen traction through the EPA's Science To Achieve Results (STAR) Research Grants. The EPA is next looking to evaluate sensor performance over longer time frames and in diverse locations, and Ms. Robarge emphasized the importance of partnering with local agencies for this effort. The EPA's Air and Energy Strategic Plan will soon be coming out, and it is anticipated that there will be a focus on air measurement methods, support for state and local agencies, and a special focus on wildfire emissions and impacts. Ms. Robarge concluded her presentation by highlighting the many staff involved in the EPA's sensor projects.

### **Presentation: Overview of Indoor Sensors**

Ms. Laura Kolb (EPA) continued the EPA's presentations on air sensors, specifically providing an overview of indoor air quality and sensors. The Office of Air and Radiation's Indoor Environments Division implements non-regulatory programs to improve indoor air quality. According to Ms. Kolb, low cost indoor air quality monitors are widely available, and some people are using these sensors to make decisions about their homes. One of the challenges is that the accuracy of these devices is variable and there is no standard rating system for sensors and monitors. Ms. Kolb noted that there is also concern that the indoor air sensors are not capturing lower particle range emissions. Ms. Kolb explained that indoor conditions are different than outdoor conditions (i.e., temperature, outdoor pollutants migrate indoors, the number and concentration of pollutants may be greater, and indoor chemical reactions can generate particulates and additional chemicals). The use of indoor air sensors is increasing rapidly, but citizens need assistance and guidance from the EPA on how to interpret and use the results appropriately. The goal is have sensors that can provide actionable information.

### **Lightning Round of Various Perspectives from CAAAC Members**

#### **#1 Lightning Round Presentation on Non-Regulatory and Portable Sensors**

Mr. Mike Silverstein (Denver Regional Air Quality Council) was the first lightning round speaker to discuss non-regulatory and portable sensors from the Colorado perspective. Mr. Silverstein stated that Colorado has several non-regulatory portable ozone analyzers and PM sensors that are used to characterize air quality across different areas for a number of different reasons. For example, where new industry has moved in, the monitors can provide information on the air quality in that particular area. Also, there has been an emphasis on wildfires, Mr. Silverstein noted. In his opinion, PM sensors are becoming good in quality, however, low cost sensors for ozone and gaseous pollutants are inadequate, especially at lower concentrations, and need to be further developed. Citizens are concerned about emissions from the oil and gas industry, and it would be nice to have good quality, low cost VOC sensors. Mr. Silverstein added while there are more requests from citizens and local agencies, the state agency is concerned about the quality of the data (e.g., sensor quality, calibration) and how the data might

be used (e.g., issue with comparing a one-minute value compared with a 24-hour standard). Lastly, sensors must be set up to output in common units, Mr. Silverstein said.

## **#2 Lightning Round Presentation on Non-Regulatory and Portable Sensors**

Mr. Kris Ray (Confederated Tribes of the Colville Reservation) spoke next on the tribal perspective of air sensors. Mr. Ray provided some background on the Colville Reservation and how they use air sensors. Mr. Ray indicated that air sensors are affordable and a great screening tool, and he noted that the data quality from low cost sensors is improving rapidly. He stated that in many geographical areas, especially tribal areas, there are no monitors at all. In Mr. Ray's opinion, these sensors can help fill gaps and identify problems or provide peace of mind where there is currently no information available.

## **#3 Lightning Round Presentation on Non-Regulatory and Portable Sensors**

Mr. Hunt spoke next on the topic of air quality sensors from the industry's perspective. He indicated that technologies are changing rapidly and have significant potential benefits, but there are some issues to work through. First, it is essential that quality from the sensors is ensured. Second, it is good to have more data, but the data need to be properly understood, especially when the data is taken from an area near a specific facility. Tension can be created when low cost sensors near facilities and are being compared with more sophisticated monitors following established monitoring protocols. Finally, communication must be clear and effective. People need to understand how the sensor results relate to health effects and any limitations of the sensors. In conclusion, Mr. Ray indicated that it is important to balance all these factors and continue the good work that has been made improving low cost sensors.

## **#4 Lightning Round Presentation on Non-Regulatory and Portable Sensors**

Mr. Carbonell spoke next on some of the work EDF has done, with a focus on empowering cities and communities to protect their health. Mr. Carbonell said that EDF has deployed air monitors in communities who are suffering from the effects of air pollution. In one example, they monitored health risks after Hurricane Harvey and found that there were significant pollutants in the air and water as a result of the hurricane. He also noted that EDF partnered with a company to monitor a neighborhood in California that is near a refinery, where it was found that benzene was leaking from storage tanks. Mr. Carbonell further described EDF's work with sensors and stated that the current threats they have found were not detected by anyone else. The technology that is available via air sensors provides a great opportunity to monitor and protect public health; however, traditional regulatory monitors are not located everywhere and can overlook some threats. In summary, EDF is working with communities to capture this data and apply it in a useful way.

## **Charge Questions/Feedback from CAAAC Members: Questions #1-#3**

Mr. Shoaff indicated that the meeting would now focus on the identified six charge questions that are available in the agenda (see Attachment B). Mr. Shoaff gave an opportunity for those on the phone to make comments and ask questions. Mr. Shelley (via telephone) expressed

appreciation for all the speakers who presented today and expressed that the EPA is making good progress. He commented that it is important to value community monitoring, as it is empowering to the citizens of those neighborhoods, and there is value in both the data obtained and in the relationship developed between the agency(s) and the communities.

Mr. Robert Hodanbosi (Ohio EPA) commented that his colleagues who work in water quality have gone through a similar process in dealing with citizen science. For water data, the attitude that citizen data was not “good enough” led to state rules on how data would be accepted and used. Mr. Hodabosi said this provides an example of how agencies have been able to handle citizen-gathered data.

Ms. Peveto commented that there is a tremendous movement to validate sensors. How to reconcile so much data from these sensors, bring it the community level and how to use it are all challenges. In her opinion, there is a lot of air quality data available, and having more of the same types of data is not what is needed, as the existing data does not answer the questions communities have. Communities want to do their own monitoring to ensure they have data for their local area. Ms. Peveto commented that in her area, there is the continued use of older diesel engines, but the EPA has not provided a monitoring protocol for diesel. Ms. Peveto expressed that the EPA could work to address some of the existing issues like this before focusing on new issues, such as sensor data.

Mr. Greenbaum noted that there is a disconnect between the sensors, which measure concentrations every minute, and the health effects that are generally a result of chronic exposures. He suggested that the EPA examine the sensor data and how the data relate to the AQI. He also noted that satellite data has had great improvements, and the data can now be used to assess exposure levels at the 1-kilometer grid level for NO<sub>x</sub> and PM. He suggested that it could be useful to see how the sensor and satellite data can be combined. Ms. Benedict indicated that the EPA has conducted an analysis of the NAAQS compared with the sensor data from the Village Green project. She also asked whether there would be a benefit to developing a shorter-term AQI and who would be the audience. Mr. Greenbaum replied that he thought the audience would be state and local agencies. Ms. Benedict added that the health science is the difficult portion in relating pollutant concentrations to health effects.

Mr. Wyman reiterated the point that many others have made that data quality and data management is important. He emphasized that it is important for the EPA and state and local agencies to develop helpful, informative guidance and to be ready to address communities’ concerns and put monitoring results in context.

Mr. Foerter reminded the group that the CAAAC is an advisory committee under FACA. Mr. Foerter said that in the past, the CAAAC has worked hard in between meetings and asked what the CAAAC could do as a group to help the EPA.

In terms of 1-minute readings versus 1-hour measurements, Mr. Marcus stated that this issue has already been dealt with in terms of occupational exposure. He suggested that the occupational exposure framework could be considered in this air pollution context. Additionally, with respect to public health data, Mr. Marcus suggested that it might be useful

for the EPA to use poison center information to relate emission events to reported cases of potentially associated health effects.

Ms. Kruger thanked the EPA for all the presentations and important information. She echoed other comments that there are both opportunities and challenges ahead and that she would compile and submit information from her members. In response to charge question #1, Ms. Kruger remarked that it is difficult to compare sensors due to differences from manufacturer to manufacturer and even sensors within the same manufacturer. She also stated that there are no standards for the use of sensor data in health studies or how conclusions from this data can be made for policy decisions. She expressed that these are two issues that the EPA should address. She also commented that the short-term 1-hour data sets versus AQI indices designed for longer sets needs to be reconciled. With respect to charge question #2, Ms. Kruger stressed that any data algorithms should not become the replacement for accurate data measurements.

Mr. Ray commented that there is confusion between the Washington state air quality indices and the EPA AQI. He also commented that addressing yearly exposure concerns may be where things are leading, which would incorporate exposure endured from the wood smoke season and from wildfires. As it relates to charge question #2 about data algorithms being used to “correct” raw measurement data, Mr. Ray said that all monitors use algorithms, so the quality of the data and algorithms matters. Ms. Benedict noted that algorithm corrections at the network level are also a concern.

Mr. Flint remarked that sensors measure a specific pollutant at a specific location at one point in time, and how this value is interpreted is critically important. This is a complicated area the public does not understand, and this can end with public mistrust of regulators. He also noted that in his experience, the public does not want to hear that the air quality is fine. Mr. Flint commented that the schedule for the PM and ozone NAAQS does not seem to allow for this type of sensor data to be included in the process.

Ms. Liddington supported comments that sensors only provide a snap-shot, which the public does not understand. She said that the state and local agencies need the EPA’s help to communicate the message that acute sensor data should not be compared to chronic health effect benchmarks. She noted that citizens will reach out to the county health departments about their respiratory issues and assert that their condition must be due to emissions from a specific facility close by. Essentially, Ms. Liddington has observed that people have long-term problems that they want to connect to short-term monitors.

Ms. Jennifer Kreusch (Eli Lilly and Company) commented that community concerns have been addressed haphazardly in the past and recommended that the EPA develop guidance and criteria for how these sensors should be used. This way, the EPA can verify that the data is “good” and use it, rather than ignoring the information and the communities’ efforts.

#### **Charge Questions/Feedback from CAAAC Members: Questions #4-#6**

Ms. Peveto said that there is guidance missing on how to evaluate indoor air quality for institutions like schools and urged the EPA to provide direction.

Mr. Wyman noted that indoor biological contaminants can have a big impact on public health, especially on asthma. He expressed that he would like to have a comparable amount of data on biological contaminants and not only chemical pollutants, as the control of biologics can be life-changing. Mr. Hodanbosi commented that it is much more difficult to monitor biologics compared with chemicals. Mr. Greenbaum asked whether there is a market or incentive structure for biologic sensors and whether the sensors are the same for measuring VOC indoors and outdoors.

Ms. Hayes stated that indoor air quality guidance is needed. She noted that there is some guidance, but most of it is very general or is old and needs to be updated. Ms. Hayes highlighted an issue with modern building codes and the conflict between buildings being sealed off for efficiency reasons but are violating ventilation standards. This issue is known, but an indoor dataset would be helpful to shed light on and address this issue, Ms. Hayes added.

Ms. Liddington added that there are many issues with asthma and mold, but there is reluctance from landlords and building owners to change their buildings to address potential issues, like proper ventilation. Ms. Liddington expressed that maybe indoor air sensors could provide a body of evidence that could help demonstrate that these issues should be addressed.

Mr. Marcus remarked that in terms of indoor air sensors and children, it is important to remember that children are shorter than adults. He noted that monitors placed at an elevated position can have very different readings from what children are exposed to.

Ms. Benedict thanked everyone for the feedback on this topic and looked forward to the next time the group meets to discuss air sensors. Mr. Shoaff indicated that there will be a follow-up discussion at the next CAAAC meeting on this topic.

### **Next Steps and Closing**

Mr. Shoaff highlighted a few items related to CAAAC including the Clean Air Excellence Awards. He said that the EPA will be having the awards ceremony again and they will be asking for panelists and nominations soon. He also noted that there have been some updates to the awards criteria and asked the CAAAC members to help get the word out for potential nominations.

Mr. Shoaff indicated that the next CAAAC meeting will be held sometime in the spring. He also mentioned that there are some CAAAC members who are rotating off the committee, and he expressed gratitude for their participation. Mr. Shoaff thanked the group for all their input, time, and comments. Mr. Shoaff adjourned the meeting.

# Attachment A



## Clean Air Advisory Committee (CAAAC)

September 26-27, 2018

### Attendance Sheet

First Name	Last Name	Affiliation
<b>Committee Members</b>		
Rhonda	Anderson	Sierra Club
Roxanne	Brown	United Steelworkers
Michael	Buser	USDA, Agricultural Research Service
Tomás	Carbonell	Environmental Defense Fund
Susan	Collett	Toyota Technical Center
Natalene	Cummings	Forest County Potawatomi Community, Natural Resources Department
Steven	Flint	NY Department of Environmental Conservation
David	Foerter	Ozone Transport Commission
Daniel	Greenbaum	Health Effects Institute
Sara	Hayes	American Council for an Energy-Efficient Economy
Mitchell	Hescox	Evangelical Environmental Network
Robert	Hodanbosi	Ohio EPA
Adrienne	Hollis	We Act for Environmental Justice
Tim	Hunt	American Forest and Paper Association & American Wood Council
Gary	Jones	Specialty Graphic Imaging Association
Jennifer	Kreusch	Eli Lilly and Company
Nancy	Kruger	National Association of Clean Air Agencies
Melanie	Lawson	Choctaw Nation of Oklahoma
Lynne	Liddington	Knox County Health Department
Steven	Marcus	Rutgers University
Robert	Morehouse	Air Permitting Forum
Brian	Mormino	Cummins, Inc.
Dan	Nickey	Iowa Waste Reduction Center
Peter	Pagano	Environment and Energy, Boeing
Mary	Peveto	Neighbors for Clean Air
Frank	Prager	Xcel Energy Inc.
Kris	Ray	Confederated Tribes of the Colville Reservation
Michael	Rochford	Caterpillar, Inc.
Kimberly	Scarborough	Public Service Electric & Gas
Adrian	Shelley	Air Alliance Houston
John	Shoaff	U.S. Environmental Protection Agency
Michael	Silverstein	Colorado Department of Public Health and Environment
Ted	Steichen	American Petroleum Institute



# Clean Air Advisory Committee (CAAAC)

September 26-27, 2018

## Attendance Sheet

First Name	Last Name	Affiliation
Patricia	Strabbing	Chrysler Group, LLC
Mary	Uhl	Western States Air Resources Council
Larry	Weinstock	U.S. Environmental Protection Agency
Robert (Bob)	Wyman	National Climate Coalition
<b>Presenters and Attendees</b>		
Kristen	Benedict	U.S. Environmental Protection Agency
Laureen	Burton	U.S. Environmental Protection Agency
Bill	Charmley	U.S. Environmental Protection Agency
Kevin	Culligan	U.S. Environmental Protection Agency
Robyn	DeYoung	U.S. Environmental Protection Agency
Phil	Dickerson	U.S. Environmental Protection Agency
Matthew	Goodwin	AJW, Inc.
Kathleen	Horchler	Caterpillar
John	Kirsman	Edison Electric Institute
Laura	Kolb	U.S. Environmental Protection Agency
Denise	Mulholland	U.S. Environmental Protection Agency
Tanya	Parise	SC&A Inc.
Stuart	Parker	IWP News
Sean	Reilly	E+E News
Leslie	Ritts	NEDA/CAP
Gail	Robarge	U.S. Environmental Protection Agency
Julie	Rosenberg	U.S. Environmental Protection Agency
Amena	Saiyid	Bloomberg Environment
Carolyn	Slaughter	APPA
Lesley	Stobert	SC&A Inc.
Bill	Wehrum	U.S. Environmental Protection Agency



## Attachment B



### Clean Air Advisory Committee (CAAAC)

September 26-27, 2018

#### Agenda

Wednesday, September 26, 2018 – Arlington Room (Ballroom, Lobby Level)

12:30 PM	Registration Begins
1:00 – 1:15	<b>Opening Session</b> Welcome by Chair/Other, Introductions, DFO opening statement
1:15 – 2:00	<b>AirNow Update</b> <i>Phil Dickerson</i>  Phil Dickerson, who leads the AirNow Program at US EPA, will present the history of AirNow's efforts to provide the public with real time information they can use to reduce or avoid exposure to poor air quality. He will talk about how the program developed from a regional initiative to a national, and even international, system used across the US as well as in Mexico and China. After covering how the program came about, Phil will demonstrate the new <a href="http://airnow.gov">airnow.gov</a> website, which was recently rebuilt from the ground up. He will cover how the new design was developed and show how the new site improves public access to air quality information.
2:00 – 2:45	<b>Tools for State and Local Government</b> <i>Denise Mulholland, Robyn DeYoung and Julie Rosenberg</i>  Energy Efficiency and Renewable Energy Tools for State and Local Governments Presentation on some of the tools and resources that EPA has developed that the states and localities use to achieve their air quality goals.
2:45 – 3:30	<b>Overview of new SAFE standard</b> <i>Bill Charmley</i>  On August 2, the U.S. Environmental Protection Agency and U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) released a notice of proposed rulemaking, the <i>Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (SAFE Vehicles Rule)</i> . This session will present an overview of the proposed rule.
3:30 – 3:45	Break
3:45 – 4:30	<b>Overview of new Affordable Clean Energy (ACE) proposal</b> <i>Kevin Culligan</i>  Presentation on recent proposal and questions and answers.
4:30 – 5:00	<b>OAR Overview &amp; Update on Priorities</b> <i>OAR Assistant Admin. Bill Wehrum + CAAAC Members' Q &amp; A</i>
5:00 – 5:30	<b>Public Comments</b>
5:30 PM	<b>Meeting Adjourned</b>
6:15 PM	<b>Group Dinner at Rustico Restaurant &amp; Bar   4075 Wilson Blvd.</b>

Thursday, September 27, 2018 – Arlington Room (Ballroom, Lobby Level)

8:30 AM – 8:45	<b>Welcome to Day 2</b>
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8:45 – 11:45 Break at 10 AM	<b>Sensors Discussion (See detailed agenda on back.)</b> <i>Kristen Benedict et al.</i>  This session will be divided into two parts. In the first half of the session, EPA will provide an overview on the use of air quality sensors in the outdoor and indoor environment including discussion of ongoing projects and initiatives. Select CAAAC representatives will then participate in lightning round presentations offering 5-minute perspectives on sensors. The second half of the session is dedicated to receiving feedback from CAAAC members on the morning presentations and charge questions provided in advance.
11:45 – 12	<b>Public Comments</b>
12 Noon	Meeting adjourned.

### Detailed Agenda

Thursday, September 26, 2018 – Arlington Room (Ballroom, Lobby Level)

8:30 AM – 8:45	<b>Welcome to Day 2</b>
8:45 – 8:50	<b>Introduction to Session</b> <i>Kristen Benedict, EPA - OAQPS</i>
8:50 – 9:15	<b>Sensors Overview</b> <i>Kristen Benedict, EPA - OAQPS</i>
9:15 – 9:25	<b>Outdoor Project Examples</b> <i>Gail Robarge, EPA - ORD</i>
9:25 – 9:35	<b>Overview of Indoor Sensors</b> <i>Laura Kolb, EPA - ORIA</i>
9:35 – 10:00 Note: Each speaker presents 5 minutes or less	<b>Lightning Round of Various Perspectives from CAAAC Members</b> <i>Speaker #1 – Mike Silverstein</i> <i>Speaker #2 – Kris Ray</i> <i>Speaker #3 – Tim Hunt</i> <i>Speaker #4 – Tomas Carbonell</i> <i>Speaker #5 – Gillian Mittelstaedt</i>
10:00 – 10:15	Break
10:15 – 11:30	<b>Charge Questions/Feedback from CAAAC Members</b>  <b>Charge #1</b> – Please provide feedback on the key areas of focus for air sensors – data quality, data interpretation, and data management. Are any key focus areas missing?  Specifically, please describe considerations for interpretation of real-time data (e.g. 1 minute) in the outdoor and/or indoor environment. Also, how can EPA effectively manage or access data from various projects both within and outside the Agency?  <b>Charge #2</b> – What should EPA consider when data algorithms are being used to “correct” raw measurement data?  <b>Charge #3</b> – [Outdoor air specific] How are the considerations for use of sensors in ambient and source environments different? What about near source environments?  <b>Charge #4</b> – [Indoor Air Specific] For sensors that have been tested or evaluated for outdoor use, please comment on what additional research should be done to assess those sensors for indoor use. Are there additional considerations for long term use?  <b>Charge #5</b> – [Indoor Air Specific] Please provide feedback on how sensors for detection of multiple indoor pollutants and/or complex mixtures found in indoor environments should be evaluated.  <b>Charge #6</b> – [Indoor Air Specific] Please comment on the state of sensors for biological contaminants

	indoors, particularly for use in residential environments, and what further research may be required to further develop or evaluate them.
11:30 – 11:45	<b>Next Steps</b>
11:45 – 12	<b>Public Comments</b>
12 Noon	Meeting adjourned.

DRAFT

Appointment

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**From:** Charmley, William [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=FB1828FB00AF42FFB68B9E0A71626D95-CHARMLEY, WILLIAM]  
**Sent:** 8/9/2018 3:41:08 PM  
**To:** Pagano (US), Peter A [peter.a.pagano@boeing.com]  
**Subject:** Call with Pete Pagano, Boeing  
**Location:** Pete will call Bill at 734-214-4862  
  
**Start:** 8/16/2018 6:00:00 PM  
**End:** 8/16/2018 7:00:00 PM  
**Show Time As:** Tentative

**From:** Pagano (US), Peter A [mailto:peter.a.pagano@boeing.com]  
**Sent:** Friday, July 27, 2018 8:52 AM  
**To:** Charmley, William <charmley.william@epa.gov>  
**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Let's plan on that. August 16 at 2pm. Do you want to call me at the number below or do you have a number you would like me to use? Thanks and have a good weekend.

Peter A. Pagano  
Director, Environment  
The Boeing Company  
703-414-6486  
Email: [peter.a.pagano@boeing.com](mailto:peter.a.pagano@boeing.com)

**From:** Pagano (US), Peter A [mailto:peter.a.pagano@boeing.com]  
**Sent:** Thursday, July 26, 2018 3:49 PM  
**To:** Charmley, William <charmley.william@epa.gov>  
**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Bill

Thanks for the message. Glad to set up a call. The afternoon of the 8<sup>th</sup> works or the morning of the 9<sup>th</sup>. May 15 and 16 are fairly open for me too. Please let me know what's convenient for you.

All the best,

Peter A. Pagano  
Director, Environment  
The Boeing Company  
703-414-6486  
Email: [peter.a.pagano@boeing.com](mailto:peter.a.pagano@boeing.com)

**From:** Charmley, William [mailto:charmley.william@epa.gov]  
**Sent:** Wednesday, July 25, 2018 6:24 AM

**To:** Pagano (US), Peter A <[peter.a.pagano@boeing.com](mailto:peter.a.pagano@boeing.com)>

**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Dear Pete

Thanks for this outreach. I did catch up with Ben on this topic, but I would like to discuss with you sometime in the next few weeks. One of the questions I have is more background on the Aerospace Industries Association.

What is this Association, who are typical members, and to what extent are the associations views similar or different to Boeings?

I am in the office on and off this week and next week, but then back full time for the week of August 6, and most of the rest of August.

Do you have some open times the week of August 6 or the week of August 13 where we could schedule a 30 minute call?

Best regards,  
Bill

**From:** Pagano (US), Peter A [<mailto:peter.a.pagano@boeing.com>]

**Sent:** Monday, July 23, 2018 3:19 PM

**To:** Charmley, William <[charmley.william@epa.gov](mailto:charmley.william@epa.gov)>

**Subject:** FW: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Bill

FYI Hope your summer is going well. Just wanted to make sure you were aware of this meeting request...I spoke to Ben Hengst and I believe he mentioned to you but I would be happy to discuss and provide additional information.

All the best,

Peter A. Pagano  
Director, Environment  
The Boeing Company  
703-414-6486  
Email: [peter.a.pagano@boeing.com](mailto:peter.a.pagano@boeing.com)

**From:** Pagano (US), Peter A

**Sent:** Monday, July 23, 2018 3:17 PM

**To:** 'Rakosnik, Delaney' <[Rakosnik.Delaney@epa.gov](mailto:Rakosnik.Delaney@epa.gov)>

**Cc:** 'Lewis, Josh' <[Lewis.Josh@epa.gov](mailto:Lewis.Josh@epa.gov)>; 'Hengst, Benjamin' <[Hengst.Benjamin@epa.gov](mailto:Hengst.Benjamin@epa.gov)>

**Subject:** Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Delaney

The purpose of this message is to request a meeting with Assistant Administrator Wehrum to discuss aircraft emissions issues that are within the jurisdiction of the International Civil Aviation Organization's (ICAO) Environment Committee. OTAQ staff are actively engaged in policy formulation at ICAO as well as in developing domestic implementing regulations. Meeting participants would include representatives from Boeing; General Electric; and the Aerospace Industries Association. Attached below is a draft agenda which includes specific discussion topics. We are requesting Sept 19 or 20 as potential meeting dates because out of town participants for both companies will already be in DC for an industry meeting earlier in the week. We will work with you to find a convenient time that works for Mr Wehrum on either of those days. You should

know that I have already provided background regarding this request to OTAQ (Ben Hengst). Thank you in advance for your assistance and please let me know if any additional information would be helpful to you.

## **Ex. 5 Deliberative Process (DP)**

Sincerely,

Peter A. Pagano  
Director, Environment  
The Boeing Company  
703-414-6486  
Email: [peter.a.pagano@boeing.com](mailto:peter.a.pagano@boeing.com)

## Appointment

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**From:** Adm15Wheeler.Calendar [Adm15Wheeler.Calendar@epa.gov]  
**Sent:** 10/5/2018 7:10:11 PM  
**To:** Adm15Wheeler.Calendar [Adm15Wheeler.Calendar@epa.gov]; Gunasekara, Mandy [Gunasekara.Mandy@epa.gov]; Bolen, Brittany [bolen.brittany@epa.gov]  
**CC:** Jackson, Ryan [jackson.ryan@epa.gov]  
**Subject:** Meeting with Boeing and General Electric  
**Attachments:** EPA Meeting Request Form.docx  
**Location:** Administrator's Office  
  
**Start:** 10/25/2018 8:00:00 PM  
**End:** 10/25/2018 8:30:00 PM  
**Show Time As:** Tentative

### Contact:

TATUM MARTINEZ | CGCN GROUP  
1101 K STREET, NW, SUITE 800 WASHINGTON, D.C. 20005  
571.271.4901 / [martinez@cgcnc.com](mailto:martinez@cgcnc.com) / [www.cgcnc.com](http://www.cgcnc.com)

## Appointment

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**From:** Adm15Wheeler.Calendar [Adm15Wheeler.Calendar@epa.gov]  
**Sent:** 10/24/2018 7:48:18 PM  
**To:** Wehrum, Bill [Wehrum.Bill@epa.gov]; Gunasekara, Mandy [Gunasekara.Mandy@epa.gov]  
**CC:** Jackson, Ryan [jackson.ryan@epa.gov]

**Subject:** Meeting with Boeing and General Electric  
**Attachments:** EPA Meeting Request Form.docx  
**Location:** Administrator's Office

**Start:** 10/25/2018 8:00:00 PM  
**End:** 10/25/2018 8:30:00 PM  
**Show Time As:** Tentative

### Contact:

TATUM MARTINEZ | CGCN GROUP  
1101 K STREET, NW, SUITE 800 WASHINGTON, D.C. 20005  
571.271.4901 / [martinez@cgcnc.com](mailto:martinez@cgcnc.com) / [www.cgcnc.com](http://www.cgcnc.com)



## Appointment

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**From:** Atkinson, Emily [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BB2155ADEF6A44AEA9410741F0C01D27-ATKINSON, EMILY]  
**Sent:** 9/21/2018 2:17:00 PM  
**To:** Wehrum, Bill [Wehrum.Bill@epa.gov]; Grundler, Christopher [grundler.christopher@epa.gov]; Charmley, William [charmley.william@epa.gov]; Samulski, Michael [samulski.michael@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Leggett, Cullen [Leggett.Cullen@epa.gov]; Mueller, John [mueller.john@epa.gov]; Thrift, Mike [thrift.mike@epa.gov]; Orlin, David [Orlin.David@epa.gov]; Burch, Julia [Burch.Julia@epa.gov]; Giannelli, Bob [Giannelli.Bob@epa.gov]; Maeroff, Bruce [Maeroff.Bruce@epa.gov]; Stevens, JeffreyA [Stevens.JeffreyA@epa.gov]; Yen, David [Yen.David@epa.gov]  
**CC:** Hengst, Benjamin [Hengst.Benjamin@epa.gov]; Schwab, Justin [Schwab.Justin@epa.gov]; Woods, Clint [woods.Clint@epa.gov]  
**Subject:** Delegated to Clint Woods: Meeting with Boeing, General Electric & Aerospace Industries Association re: aircraft emission issues (confirmed)  
**Attachments:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20  
**Location:** WJC - N 5400 + Video with AA + Ex. 6 Personal Privacy (PP)  
**Start:** 9/20/2018 2:30:00 PM  
**End:** 9/20/2018 3:15:00 PM  
**Show Time As:** Busy

### **Bill Wehrum did not attend this meeting**

**TO:** Bill Wehrum, Chris Grundler, Bill Charmley, Mike Samulski, Bryan Manning, Cullen Leggett, John Mueller, Mike Thrift, David Orlin, Julia Burch, Bob Giannelli, Bruce Maeroff, Jeffery Stevens, David Yen



RE: Request for  
Meeting with Ass...

### **Meeting participants (in person):**

- Aerospace Industries Association: Leslie Riegle and David Hyde
- Boeing: Ted Austell, Pete Pagano, John Moloney, Dan Allyn, Sean Newsum
- General Electric: Roger Martella, Neal Kemkar, Mike Fitzpatrick, Muni Majjigi, Joe Zelina

Message

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**From:** Eagles, Tom [Eagles.Tom@epa.gov]  
**Sent:** 9/27/2018 9:27:39 PM  
**To:** Harlow, David [harlow.david@epa.gov]  
**CC:** Lubetsky, Jonathan [Lubetsky.Jonathan@epa.gov]  
**Subject:** OAR FINAL FOIA Awareness Review: Fourth Production Set for EPA-HQ-2017-010177  
**Attachments:** Production Set 4 Review - Transparent.pdf

David,

I am circulating for OAR final awareness review responsive documents to a FOIA request from the Sierra Club, EPA-HQ-2017-010177 regarding regional haze. This request is a consolidated FOIA request, originating as FOIA requests to multiple regions and HQ. This is the fourth production set for this request. There are no documents to flag. There are no AO custodians. The documents are attached.

Note: The production set has been produced with transparent redactions for ease in reviewing the documents. These redactions will not be transparent when finalized.

Email originators include Justin Schwab, Gautam Srinivasan, Sam Coleman

Offices who have reviewed: OAR , OGC ARLO (Dan Schramm), OAQPS, Region 6, Region 7, Region 8

We are sending this for your review before we circulate it more broadly. We are looking to release the documents early next week.

Thank you,

Tom Eagles for Jonathan Lubetsky

Message

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**From:** Lubetsky, Jonathan [Lubetsky.Jonathan@epa.gov]  
**Sent:** 4/25/2019 3:19:07 PM  
**To:** Harlow, David [harlow.david@epa.gov]  
**CC:** Eagles, Tom [Eagles.Tom@epa.gov]  
**Subject:** FW: First Look Media Litigation (Ethics Production) Equity Review  
**Attachments:** ED\_002121\_20190423\_Draft Production Ethics 4-24-19.pdf

David,

I would appreciate your input on this. As you know, we have a FOIA that you reviewed for all of Bill's ethics related docs that was pulled from awareness notification due to an equity issue in OGC. There are docs in the attached FOIA that are also in the held FOIA. I would like to ask that they pull out all docs related to Bill from this set to ensure they are consistently handled between the two FOIAs. I am confident in the review we did, and OGC Ethics. I would also question whether or not this FOIA goes out before Bill's, given that Bill's FOIA was ready to go out well before this FOIA. Please let me know your thoughts.

Jonathan

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**From:** Tran, Victoria

**Sent:** Thursday, April 25, 2019 10:34 AM

**To:** Dunn, Alexandra <dunn.alexandra@epa.gov>; Benevento, Douglas <benevento.douglas@epa.gov>; Wehrum, Bill <>Wehrum.Bill@epa.gov>; Cook, Steven <cook.steven@epa.gov>; Ross, David P <ross.davidp@epa.gov>; Hewitt, James <hewitt.james@epa.gov>; Traylor, Patrick <traylor.patrick@epa.gov>; Bennett, Tate <Bennett.Tate@epa.gov>; Bolen, Brittany <bolen.brittany@epa.gov>; Forsgren, Lee <Forsgren.Lee@epa.gov>; Harlow, David <harlow.david@epa.gov>; Abboud, Michael <abboud.michael@epa.gov>; Konkus, John <konkus.john@epa.gov>; Lyons, Troy <lyons.troy@epa.gov>; Davis, Patrick <davis.patrick@epa.gov>; Kundinger, Kelly <kundinger.kelly@epa.gov>  
**Cc:** Lubetsky, Jonathan <Lubetsky.Jonathan@epa.gov>; Hoverman, Taylor <hoverman.taylor@epa.gov>; Zipf, Lynn <Zipf.Lynn@epa.gov>; Lovell, Will (William) <lovell.william@epa.gov>; Fitzmorris, Amanda <fitzmorris.amanda@epa.gov>; Brazauskas, Joseph <brazauskas.joseph@epa.gov>; Knapp, Kristien <Knapp.Kristien@epa.gov>; Voyles, Travis <Voyles.Travis@epa.gov>; Rodrick, Christian <rodrick.christian@epa.gov>; Frye, Tony (Robert) <frye.robert@epa.gov>

**Subject:** First Look Media Litigation (Ethics Production) Equity Review

Good Morning,

Please refer to the attachment for your equity and awareness review in an ongoing FOIA lawsuit with First Look Media. These documents are responsive to the next production set, which seek records from the Ethics Law Office that pertain to the following:

- 1) Political appointees participating with any external organization/corporation events (invitations to speak at meetings, fundraising events, galas, etc.). Records include requests or questions to EPA Ethics Law Office regarding legal/ethical nature of the proposed actions by EPA political appointees.
- 2) Political appointees' travel inquiries sent to the Ethics Law Office. Records include requests/questions to EPA Ethics Legal Office regarding legal/ethical nature of proposed or actual actions by political appointees.

Please note that there are several documents containing material that may be of interest to you and/or your program office. For your convenience, I have made the PDF searchable and provided a list of relevant custodians below. If you have any questions or comments, please feel free to contact me or Joe Brazauskas by **NOON on Monday, 4/29**. Thank you.

List of Political Appointees:

OCSP

- Alex Dunn
- Nancy Beck

OGC

- Erik Baptist
- Justin Schwab
- Kevin Minoli
- David Fotouhi

OAR

- David Harlow
- Bill Wehrum
- Mandy Gunasekara
- Clint Woods

Others

- Chad McIntosh
- Doug Benevento
- Patrick Davis
- Patrick Traylor
- Brittany Bolen
- Steven Cook
- Kelly Kunding

AO

- Ryan Jackson
- Andrew Wheeler
- Henry Darwin

Water

- David P. Ross
- Lee Forsgren

OPA

- John Konkus
- James Hewitt
- Michael Abboud
- Tate Bennett

OCIR

- Troy Lyons
- Aaron Ringel

Departed

- Albert Kelly
- Ken Wagner
- Scott Pruitt
- Milan Hupp
- Sydney Hupp
- Hayley Ford
- Lincoln Ferguson
- Michael Dourson
- Samantha Dravis
- Richard Yamada

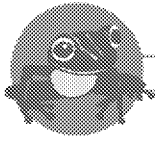
VT



## Appointment

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**From:** Hengst, Benjamin [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C414E2BF04A246BB987D88498EEFFF06-HENGST, BENJAMIN]  
**Sent:** 9/18/2018 1:16:30 PM  
**To:** Benjamin Hengst [Hengst.Benjamin@epa.gov]  
**Subject:** FW: Meeting with Boeing, General Electric & Aerospace Industries Association re: aircraft emission issues (confirmed)  
**Attachments:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20  
**Location:** WJC - N 5400 + Video with AA + Ex. 6 Personal Privacy (PP)  
**Start:** 9/20/2018 2:30:00 PM  
**End:** 9/20/2018 3:15:00 PM  
**Show Time As:** Tentative



June 19, 2019

VIA FOIAONLINE.REGULATIONS.GOV

U.S. Environmental Protection Agency

Re: Freedom of Information Act Request: Control of Air Pollution from Aircraft Engines: Communications

Dear FOIA Officer:

This is a request under the Freedom of Information Act, 5 U.S.C. § 552, *as amended* (“FOIA”), from the Center for Biological Diversity (“Center”), a non-profit organization that works to secure a future for all species hovering on the brink of extinction through science, law, and creative media, and to fulfill the continuing educational goals of its membership and the general public in the process.

#### REQUESTED RECORDS

The Center requests from the U.S. Environmental Protection Agency (“EPA”) Headquarters:

From July 1, 2018 to the date EPA conducts this search, all records mentioning or including standards for greenhouse gas emissions from aircraft engines, prioritizing the records of communications between EPA and General Electric and/or Boeing, including but not limited to the records of communications with Roger Martella, Michael Fitzpatrick, Peter Prowitt, Theodore (Ted) Austell, Peter Pagano and John Moloney.

For this request, the term “records” refers to, but is not limited to, documents, correspondence (including, but not limited to, inter and/or intra-agency correspondence as well as correspondence with entities or individuals outside the federal government), emails, letters, notes, recordings, telephone records, voicemails, telephone notes, telephone logs, text messages, chat messages, minutes, memoranda, comments, files, presentations, consultations, biological opinions, assessments, evaluations, schedules, papers published and/or unpublished, reports, studies, photographs and other images, data (including raw data, GPS or GIS data, UTM, LiDAR, etc.), maps, and/or all other responsive records, in draft or final form.

This request is not meant to exclude any other records that, although not specially requested, are reasonably related to the subject matter of this request. If you or your office have destroyed or determine to withhold any records that could be reasonably construed to be responsive to this request, I ask that you indicate this fact and the reasons therefore in your response.

Under the FOIA Improvement Act of 2016, agencies are prohibited from denying requests for information under FOIA unless the agency reasonably believes release of the information will

harm an interest that is protected by the exemption. FOIA Improvement Act of 2016 (Public Law No. 114-185), codified at 5 U.S.C. § 552(a)(8)(A).

Should you decide to invoke a FOIA exemption, please include sufficient information for us to assess the basis for the exemption, including any interest(s) that would be harmed by release. Please include a detailed ledger which includes:

1. Basic factual material about each withheld record, including the originator, date, length, general subject matter, and location of each item; and
2. Complete explanations and justifications for the withholding, including the specific exemption(s) under which the record (or portion thereof) was withheld and a full explanation of how each exemption applies to the withheld material. Such statements will be helpful in deciding whether to appeal an adverse determination. Your written justification may help to avoid litigation.

If you determine that portions of the records requested are exempt from disclosure, we request that you segregate the exempt portions and mail the non-exempt portions of such records to my attention at the address below within the statutory time limit. 5 U.S.C. § 552(b).

The Center is willing to receive records on a rolling basis.

FOIA's "frequently requested record" provision was enacted as part of the 1996 Electronic Freedom of Information Act Amendments, and requires all federal agencies to give "reading room" treatment to any FOIA-processed records that, "because of the nature of their subject matter, the agency determines have become the subject of subsequent requests for substantially the same records." *Id.* § 552(a)(2)(D)(ii)(I). Also, enacted as part of the 2016 FOIA Improvement Act, FOIA's Rule of 3 requires all federal agencies to proactively "make available for public inspection in an electronic format" "copies of records, regardless of form or format ... that have been released to any person ... and ... that have been requested 3 or more times." *Id.* § 552(a)(2)(D)(ii)(II). Therefore, we respectfully request that you make available online any records that the agency determines will become the subject of subsequent requests for substantially the same records, and records that have been requested three or more times.

Finally, agencies must preserve all the records requested herein while this FOIA is pending or under appeal. The agency shall not destroy any records while they are the subject of a pending request, appeal, or lawsuit under the FOIA. 40 C.F.R. § 2.106; *see Chambers v. U.S. Dept. of Interior*, 568 F.3d 998, 1004 (D.C. Cir. 2009) ("[A]n agency is not shielded from liability if it intentionally transfers or destroys a document after it has been requested under FOIA or the Privacy Act"). If any of the requested records are destroyed, the agency and responsible officials are subject to attorney fee awards and sanctions, including fines and disciplinary action. A court held an agency in contempt for "contumacious conduct" and ordered the agency to pay plaintiff's costs and fees for destroying "potentially responsive material contained on hard drives and email backup tapes." *Landmark Legal Found. v. EPA*, 272 F. Supp.2d 59, 62 (D.D.C. 2003); *see also Judicial Watch, Inc. v. Dept. of Commerce*, 384 F. Supp. 2d 163, 169 (D.D.C. 2005) (awarding attorneys' fees and costs because, among other factors, agency's "initial search was unlawful and



egregiously mishandled and ...likely responsive documents were destroyed and removed”), *aff’d in relevant part*, 470 F.3d 363, 375 (D.C. Cir. 2006) (remanding in part to recalculate attorney fees assessed). In another case, in addition to imposing a \$10,000 fine and awarding attorneys’ fees and costs, the court found that an Assistant United States Attorney prematurely “destroyed records responsive to [the] FOIA request while [the FOIA] litigation was pending” and referred him to the Department of Justice’s Office of Professional Responsibility. *Jefferson v. Reno*, 123 F. Supp. 2d 1, 6 (D.D.C. 2000).

### FORMAT OF REQUESTED RECORDS

Under FOIA, you are obligated to provide records in a readily accessible electronic format and in the format requested. 5 U.S.C. § 552(a)(3)(B) (“In making any record available to a person under this paragraph, an agency shall provide the record in any form or format requested by the person if the record is readily reproducible by the agency in that form or format.”). “Readily accessible” means text-searchable and OCR-formatted. *See id.* Pursuant to this requirement, we hereby request that you produce all records in an electronic format and in their native file formats. Additionally, please provide the records in a load-ready format with a CSV file index or Excel spreadsheet. If you produce files in .PDF format, then please omit any “portfolios” or “embedded files.” Portfolios and embedded files within files are not readily accessible. Please do not provide the records in a single, or “batched,” .PDF file. We appreciate the inclusion of an index.

If you should seek to withhold or redact any responsive records, we request that you: (1) identify each such record with specificity (including date, author, recipient, and parties copied); (2) explain in full the basis for withholding responsive material; and (3) provide all segregable portions of the records for which you claim a specific exemption. *Id.* § 552(b). Please correlate any redactions with specific exemptions under FOIA.

### RECORD DELIVERY

We appreciate your help in expeditiously obtaining a determination on the requested records. As mandated in FOIA, we anticipate a reply within 20 working days. *Id.* § 552(a)(6)(A)(i); 21 C.F.R. § 20.41(b). Failure to comply within the statutory timeframe may result in the Center taking additional steps to ensure timely receipt of the requested materials. Please provide a complete reply as expeditiously as possible. You may email or mail copies of the requested records to:

Ann K. Brown  
Center for Biological Diversity  
P.O. Box 11374  
Portland, OR 97211  
foia@biologicaldiversity.org

If you find that this request is unclear, or if the responsive records are voluminous, please email me to discuss the scope of this request.

## REQUEST FOR FEE WAIVER

FOIA was designed to provide citizens a broad right to access government records. FOIA's basic purpose is to "open agency action to the light of public scrutiny," with a focus on the public's "right to be informed about what their government is up to." *NARA v. Favish*, 541 U.S. 157, 171 (2004) quoting *U.S. Dep't of Justice v. Reporters Comm. for Freedom of Press*, 489 U.S. 749, 773-74 (1989) (internal quotation and citations omitted). In order to provide public access to this information, FOIA's fee waiver provision requires that "[d]ocuments shall be furnished without any charge or at a [reduced] charge," if the request satisfies the standard. 5 U.S.C. § 552(a)(4)(A)(iii). FOIA's fee waiver requirement is "liberally construed." *Judicial Watch, Inc. v. Rossotti*, 326 F.3d 1309, 1310 (D.C. Cir. 2003); *Forest Guardians v. U.S. Dept. of Interior*, 416 F.3d 1173, 1178 (10th Cir. 2005).

The 1986 fee waiver amendments were designed specifically to provide non-profit organizations such as the Center access to government records without the payment of fees. Indeed, FOIA's fee waiver provision was intended "to prevent government agencies from using high fees to discourage certain types of requesters and requests," which are "consistently associated with requests from journalists, scholars, and *non-profit public interest groups*." *Ettlinger v. FBI*, 596 F. Supp. 867, 872 (D. Mass. 1984) (emphasis added). As one Senator stated, "[a]gencies should not be allowed to use fees as an offensive weapon against requesters seeking access to Government information ... ." 132 Cong. Rec. S. 14298 (statement of Senator Leahy).

### I. The Center Qualifies for a Fee Waiver.

Under FOIA, a party is entitled to a fee waiver when "disclosure of the information is in the public interest because it is likely to contribute significantly to public understanding of the operations or activities of the [Federal] government and is not primarily in the commercial interest of the requester." 5 U.S.C. § 552(a)(4)(A)(iii). EPA's regulations at 40 C.F.R. § 2.107(l)(1)-(3) establish the same standard.

Thus, EPA must consider four factors to determine whether a request is in the public interest: (1) whether the subject of the requested records concerns "the operations or activities of the Federal government," (2) whether the disclosure is "likely to contribute" to an understanding of government operations or activities, (3) whether the disclosure "will contribute to public understanding" of a reasonably broad audience of persons interested in the subject, and (4) whether the disclosure is likely to contribute "significantly" to public understanding of government operations or activities. *Id.* § 2.107(l)(2). As shown below, the Center meets each of these factors.

#### A. The Subject of This Request Concerns "The Operations and Activities of the Government."

The subject matter of this request concerns the operations and activities of the EPA. This request asks for: from July 1, 2018 to the date EPA conducts this search, all records mentioning or including standards for greenhouse gas emissions from aircraft engines, prioritizing the records

of communications between EPA and General Electric and/or Boeing, including but not limited to the records of communications with Roger Martella, Michael Fitzpatrick, Peter Prowitt, Theodore (Ted) Austell, Peter Pagano and John Moloney.

This FOIA will provide the Center and the public with crucial insight into about aircraft emission standards. It is clear that federal standards proposed by a federal agency are specific and identifiable activities of the government, and in this case it is the executive branch agency of EPA. *Judicial Watch*, 326 F.3d at 1313 (“[R]easonable specificity is all that FOIA requires with regard to this factor”) (internal quotations omitted). Thus, the Center meets this factor.

B. Disclosure is “Likely to Contribute” to an Understanding of Government Operations or Activities.

The requested records are meaningfully informative about government operations or activities and will contribute to an increased understanding of those operations and activities by the public.

Disclosure of the requested records will allow the Center to convey to the public information about EPA’s move to issue CO2 standards for aircrafts. In 2016, the International Civil Aviation Organization (“ICAO”) completed CO2 standards for new aircraft. A new domestic CO2 standard is an obligation of all member states of the United Nation’s ICAO, to which the United States belongs. Once the responsive records are made available, the Center will analyze it and present it to its 1.4 million members and online activists and the general public in a manner that will meaningfully enhance the public’s understanding of this topic.

Thus, the requested records are likely to contribute to an understanding of EPA’s operations and activities.

C. Disclosure of the Requested Records Will Contribute to a Reasonably Broad Audience of Interested Persons’ Understanding of Air Pollution Caused by Aircraft Engines.

The requested records will contribute to public understanding of whether EPA’s actions ARE consistent with ICAO’s standards. As explained above, the records will contribute to public understanding of this topic.

How EPA fulfills its mission and manages its priorities generally, and specifically the potential insufficiency of future aircraft greenhouse gas regulations, are areas of interest to a reasonably broad segment of the public. The Center will use the information it obtains from the disclosed records to educate the public at large about agency progress to set emission standards for aircraft, and also to educate the public at large about carbon emission standards from aircraft. *See W. Watersheds Proj. v. Brown*, 318 F. Supp.2d 1036, 1040 (D. Idaho 2004) (finding that “WWP adequately specified the public interest to be served, that is, educating the public about the ecological conditions of the land managed by the BLM and also how ... management strategies employed by the BLM may adversely affect the environment”).

Through the Center's synthesis and dissemination (by means discussed in Section II, below), disclosure of information contained in and gleaned from the requested records will contribute to a broad audience of persons who are interested in the subject matter. *Ettlinger v. FBI*, 596 F. Supp. at 876 (benefit to a population group of some size distinct from the requester alone is sufficient); *Carney v. Dept. of Justice*, 19 F.3d 807, 815 (2d Cir. 1994), *cert. denied*, 513 U.S. 823 (1994) (applying "public" to require a sufficient "breadth of benefit" beyond the requester's own interests); *Cnty. Legal Servs. v. Dep't of Hous. & Urban Dev.*, 405 F. Supp.2d 553, 557 (E.D. Pa. 2005) (in granting fee waiver to community legal group, court noted that while the requester's "work by its nature is unlikely to reach a very general audience," "there is a segment of the public that is interested in its work").

Indeed, the public does not currently have an ability to easily evaluate the requested records, which are not currently in the public domain. *See Cnty. Legal Servs.*, 405 F. Supp.2d at 560 (because requested records "clarify important facts" about agency policy, "the CLS request would likely shed light on information that is new to the interested public."). As the Ninth Circuit observed in *McClellan Ecological Seepage Situation v. Carlucci*, 835 F.2d 1282, 1286 (9th Cir. 1987), "[FOIA] legislative history suggests that information [has more potential to contribute to public understanding] to the degree that the information is new and supports public oversight of agency operations...".<sup>1</sup>

Disclosure of these records is not only "likely to contribute," but is certain to contribute, to public understanding of aircraft emission standards and their environmental impact. The public is always well served when it knows how the government conducts its activities, particularly matters touching on legal questions. Hence, there can be no dispute that disclosure of the requested records to the public will educate the public about this topic.

D. Disclosure is Likely to Contribute Significantly to Public Understanding of Government Operations or Activities.

The Center is not requesting these records merely for their intrinsic informational value. Disclosure of the requested records will significantly enhance the public's understanding of EPA's move to issue CO2 standards for aircrafts, as compared to the level of public understanding that exists prior to the disclosure. Indeed, public understanding will be *significantly* increased as a result of disclosure because the requested records will help reveal more about this issue.

The records are also certain to shed light on EPA's compliance with the ICAO standards. Such public oversight of agency action is vital to our democratic system and clearly envisioned by the drafters of the FOIA. Thus, the Center meets this factor as well.

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<sup>1</sup> In this connection, it is immaterial whether any portion of the Center's request may currently be in the public domain because the Center requests considerably more than any piece of information that may currently be available to other individuals. *See Judicial Watch*, 326 F.3d at 1315.

II. The Center has a Demonstrated Ability to Disseminate the Requested Information Broadly.

The Center is a non-profit organization that informs, educates, and counsels the public regarding environmental issues, policies, and laws relating to environmental issues. The Center has been substantially involved in the activities of numerous government agencies for over 25 years, and has consistently displayed its ability to disseminate information granted to it through FOIA.

In consistently granting the Center's fee waivers, agencies have recognized: (1) that the information requested by the Center contributes significantly to the public's understanding of the government's operations or activities; (2) that the information enhances the public's understanding to a greater degree than currently exists; (3) that the Center possesses the expertise to explain the requested information to the public; (4) that the Center possesses the ability to disseminate the requested information to the general public; (5) and that the news media recognizes the Center as an established expert in the field of imperiled species, biodiversity, and impacts on protected species. The Center's track record of active participation in oversight of governmental activities and decision making, and its consistent contribution to the public's understanding of those activities as compared to the level of public understanding prior to disclosure are well established.

The Center intends to use the records requested here similarly. The Center's work appears in nearly 5,000 news stories online and in print, radio and TV per month, including regular reporting in such important outlets as *The New York Times*, *Washington Post*, *The Guardian*, and *Los Angeles Times*. Many media outlets have reported on the environmental impact of aircraft utilizing information obtained by the Center from federal agencies, including EPA. In 2018, more than 2.5 million people visited the Center's extensive website, and viewed pages a total of 4.3 million times. The Center sends out more than 277 email newsletters and action alerts per year to more than over 1.4 million members and supporters. Three times a year, the Center sends printed newsletters to more than 69,500 members. More than 420,000 people have "liked" the Center on Facebook, and there are regular postings regarding air pollution and quality. The Center also regularly tweets to more than 71,200 followers on Twitter. The Center intends to use any or all of these far-reaching media outlets to share with the public information obtained as a result of this request.

Public oversight and enhanced understanding of the EPA's duties is absolutely necessary. In determining whether disclosure of requested information will contribute significantly to public understanding, a guiding test is whether the requester will disseminate the information to a reasonably broad audience of persons interested in the subject. *Carney*, 19 F.3d 807. The Center need not show how it intends to distribute the information, because "[n]othing in FOIA, the [agency] regulation, or our case law require[s] such pointless specificity." *Judicial Watch*, 326 F.3d at 1314. It is sufficient for the Center to show how it distributes information to the public generally. *Id.*

III. Obtaining the Requested Records is of No Commercial Interest to the Center.

Access to government records, disclosure forms, and similar materials through FOIA requests is essential to the Center's role of educating the general public. Founded in 1994, the Center is a 501(c)(3) nonprofit conservation organization (EIN: 27-3943866) with more than 1.4 million members and online activists dedicated to the protection of endangered and threatened species and wild places. The Center has no commercial interest and will realize no commercial benefit from the release of the requested records.

IV. Conclusion

For all of the foregoing reasons, the Center qualifies for a full fee waiver. We hope that EPA will immediately grant this fee waiver request and begin to search and disclose the requested records without any unnecessary delays.

If you have any questions, please contact me at [foia@biologicaldiversity.org](mailto:foia@biologicaldiversity.org). All records and any related correspondence should be sent to my attention at the address below.

Sincerely,

A handwritten signature in black ink, appearing to read "Ann K. Brown", with a stylized flourish at the end.

Ann K. Brown  
Open Government Coordinator  
CENTER FOR BIOLOGICAL DIVERSITY  
P.O. Box 11374  
Portland, OR 97211-0374  
[foia@biologicaldiversity.org](mailto:foia@biologicaldiversity.org)

Message

---

**From:** Burch, Julia [Burch.Julia@epa.gov]  
**Sent:** 7/30/2018 7:40:19 PM  
**To:** Hengst, Benjamin [Hengst.Benjamin@epa.gov]; Atkinson, Emily [Atkinson.Emily@epa.gov]; Sutton, Tia [sutton.tia@epa.gov]  
**CC:** Rakosnik, Delaney [rakosnik.delaney@epa.gov]  
**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Please invite the following:

- Chris Grundler
- Bill Charmley
- Mike Samulski
- Bryan Manning
- Cullen Leggett
- John Mueller
- Mike Thrift
- David Orlin
- Julia Burch
- Bob Giannelli
- Bruce Maeroff
- Jeffrey A Stevens
- David Yen

Thanks!

Regards,

Julia Burch  
Office of Transportation and Air Quality  
U.S. Environmental Protection Agency  
202-564-0961

---

**From:** Hengst, Benjamin  
**Sent:** Monday, July 30, 2018 2:33 PM  
**To:** Atkinson, Emily <Atkinson.Emily@epa.gov>; Sutton, Tia <sutton.tia@epa.gov>  
**Cc:** Rakosnik, Delaney <rakosnik.delaney@epa.gov>; Burch, Julia <Burch.Julia@epa.gov>  
**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Looping in Julia on this on this one for a response (Julia covers aircraft topics). thanks

---

**From:** Atkinson, Emily  
**Sent:** Monday, July 30, 2018 2:30 PM  
**To:** Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Sutton, Tia <sutton.tia@epa.gov>  
**Cc:** Rakosnik, Delaney <rakosnik.delaney@epa.gov>  
**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Ben and Tia – could you let us know who from OTAQ and/or OGC should be included in this meeting? Draft agenda from Peter Pagano is outlined below.

## Ex. 5 Deliberative Process (DP)

Thanks!

---

**From:** Rakosnik, Delaney  
**Sent:** Monday, July 30, 2018 2:20 PM  
**To:** Atkinson, Emily <[Atkinson.Emily@epa.gov](mailto:Atkinson.Emily@epa.gov)>  
**Subject:** FW: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Am I missing anyone from Ann Arbor? So far I have Chris Grundler, Ben Hengst, Bill Charmley, Byron Bunker. Anyone else?

---

**From:** Pagano (US), Peter A [<mailto:peter.a.pagano@boeing.com>]  
**Sent:** Monday, July 30, 2018 7:14 AM  
**To:** Rakosnik, Delaney <[rakosnik.delaney@epa.gov](mailto:rakosnik.delaney@epa.gov)>  
**Cc:** Lewis, Josh <[Lewis.Josh@epa.gov](mailto:Lewis.Josh@epa.gov)>; Hengst, Benjamin <[Hengst.Benjamin@epa.gov](mailto:Hengst.Benjamin@epa.gov)>; Atkinson, Emily <[Atkinson.Emily@epa.gov](mailto:Atkinson.Emily@epa.gov)>  
**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Delaney

Thanks for the message. This is to confirm that the meeting time on Sept 20 will work on our end. We will be in touch to provide participant names closer to the meeting date. Please let me know what additional information you may need.

All the best

Pete Pagano

---

**From:** Rakosnik, Delaney <[rakosnik.delaney@epa.gov](mailto:rakosnik.delaney@epa.gov)>  
**Sent:** Friday, July 27, 2018 12:31:07 PM  
**To:** Pagano (US), Peter A  
**Cc:** Lewis, Josh; Hengst, Benjamin; Atkinson, Emily  
**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Peter,

Bill Wehrum can accommodate a 45 min meeting on Sept 20<sup>th</sup> at 10am. How does that time work for your schedules?

Many thanks,

Delaney Rakosnik  
Staff Assistant  
Immediate Office of the Assistant Administrator  
Office of Air and Radiation, USEPA  
Room 5406A, 1200 Pennsylvania Avenue NW  
Washington, DC 20460  
Voice: 202-564-0935  
Email: [rakosnik.delaney@epa.gov](mailto:rakosnik.delaney@epa.gov)



---

**From:** Pagano (US), Peter A [<mailto:peter.a.pagano@boeing.com>]  
**Sent:** Monday, July 23, 2018 3:17 PM  
**To:** Rakosnik, Delaney <[rakosnik.delaney@epa.gov](mailto:rakosnik.delaney@epa.gov)>  
**Cc:** Lewis, Josh <[Lewis.Josh@epa.gov](mailto:Lewis.Josh@epa.gov)>; Hengst, Benjamin <[Hengst.Benjamin@epa.gov](mailto:Hengst.Benjamin@epa.gov)>  
**Subject:** Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Delaney

The purpose of this message is to request a meeting with Assistant Administrator Wehrum to discuss aircraft emissions issues that are within the jurisdiction of the International Civil Aviation Organization's (ICAO) Environment Committee. OTAQ staff are actively engaged in policy formulation at ICAO as well as in developing domestic implementing regulations. Meeting participants would include representatives from Boeing; General Electric; and the Aerospace Industries Association. Attached below is a draft agenda which includes specific discussion topics. We are requesting Sept 19 or 20 as potential meeting dates because out of town participants for both companies will already be in DC for an industry meeting earlier in the week. We will work with you to find a convenient time that works for Mr Wehrum on either of those days. You should know that I have already provided background regarding this request to OTAQ (Ben Hengst). Thank you in advance for your assistance and please let me know if any additional information would be helpful to you.

Draft Agenda

## **Ex. 5 Deliberative Process (DP)**

Sincerely,

Peter A. Pagano  
Director, Environment  
The Boeing Company  
703-414-6486  
Email: [peter.a.pagano@boeing.com](mailto:peter.a.pagano@boeing.com)

## Appointment

---

**From:** Hengst, Benjamin [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C414E2BF04A246BB987D88498EEFF06-HENGST, BENJAMIN]  
**Sent:** 9/18/2018 1:16:30 PM  
**To:** Benjamin Hengst [Hengst.Benjamin@epa.gov]  
**Subject:** FW: Meeting with Boeing, General Electric & Aerospace Industries Association re: aircraft emission issues (confirmed)  
**Attachments:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20  
**Location:** WJC - N 5400 + Video with AA + Ex. 6 Personal Privacy (PP)  
**Start:** 9/20/2018 2:30:00 PM  
**End:** 9/20/2018 3:15:00 PM  
**Show Time As:** Tentative

-----Original Appointment-----

**From:** Rakosnik, Delaney **On Behalf Of** Wehrum, Bill  
**Sent:** Monday, July 30, 2018 3:51 PM  
**To:** Wehrum, Bill; Grundler, Christopher; Charmley, William; Samulski, Michael; Manning, Bryan; Leggett, Cullen; Mueller, John; Thrift, Mike; Orlin, David; Burch, Julia; Giannelli, Bob; Maeroff, Bruce; Stevens, JeffreyA; Yen, David  
**Subject:** Meeting with Boeing, General Electric & Aerospace Industries Association re: aircraft emission issues (confirmed)  
**When:** Thursday, September 20, 2018 10:30 AM-11:15 AM (UTC-05:00) Eastern Time (US & Canada).  
**Where:** WJC - N 5400 + Video with AA + Ex. 6 Personal Privacy (PP)

**TO:** Bill Wehrum, Chris Grundler, Bill Charmley, Mike Samulski, Bryan Manning, Cullen Leggett, John Mueller, Mike Thrift, David Orlin, Julia Burch, Bob Giannelli, Bruce Maeroff, Jeffery Stevens, David Yen



RE: Request for  
Meeting with Ass...

### Meeting participants (in person):

- Aerospace Industries Association: Leslie Riegle and David Hyde
- Boeing: Ted Austell, Pete Pagano, John Moloney, Dan Allyn, Sean Newsum
- General Electric: Roger Martella, Neal Kemkar, Mike Fitzpatrick, Muni Majjigi, Joe Zelina

## Appointment

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**From:** Rakosnik, Delaney [Wehrum.Bill@epa.gov]  
**Sent:** 7/30/2018 8:25:24 PM  
**To:** Wehrum, Bill [Wehrum.Bill@epa.gov]; Grundler, Christopher [grundler.christopher@epa.gov]; Charmley, William [charmley.william@epa.gov]; Samulski, Michael [samulski.michael@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Leggett, Cullen [Leggett.Cullen@epa.gov]; Mueller, John [mueller.john@epa.gov]; Thrift, Mike [thrift.mike@epa.gov]; Orlin, David [Orlin.David@epa.gov]; Burch, Julia [Burch.Julia@epa.gov]; Giannelli, Bob [Giannelli.Bob@epa.gov]; Maeroff, Bruce [Maeroff.Bruce@epa.gov]; Stevens, JeffreyA [Stevens.JeffreyA@epa.gov]; Yen, David [Yen.David@epa.gov]  
**CC:** Hengst, Benjamin [Hengst.Benjamin@epa.gov]; Schwab, Justin [Schwab.Justin@epa.gov]; Woods, Clint [woods.clint@epa.gov]  
**Subject:** Delegated to Clint Woods: Meeting with Boeing, General Electric & Aerospace Industries Association re: aircraft emission issues (confirmed)  
**Attachments:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20  
**Location:** WJC - N 5400 + Video with AA + Ex. 6 Personal Privacy (PP)  
**Start:** 9/20/2018 2:30:00 PM  
**End:** 9/20/2018 3:15:00 PM  
**Show Time As:** Busy

## Appointment

---

**From:** Rakosnik, Delaney [Wehrum.Bill@epa.gov]  
**Sent:** 7/30/2018 8:25:24 PM  
**To:** Wehrum, Bill [Wehrum.Bill@epa.gov]; Grundler, Christopher [grundler.christopher@epa.gov]; Charmley, William [charmley.william@epa.gov]; Samulski, Michael [samulski.michael@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Leggett, Cullen [Leggett.Cullen@epa.gov]; Mueller, John [mueller.john@epa.gov]; Thrift, Mike [thrift.mike@epa.gov]; Orlin, David [Orlin.David@epa.gov]; Burch, Julia [Burch.Julia@epa.gov]; Giannelli, Bob [Giannelli.Bob@epa.gov]; Maeroff, Bruce [Maeroff.Bruce@epa.gov]; Stevens, JeffreyA [Stevens.JeffreyA@epa.gov]; Yen, David [Yen.David@epa.gov]  
**CC:** Hengst, Benjamin [Hengst.Benjamin@epa.gov]; Schwab, Justin [Schwab.Justin@epa.gov]; Woods, Clint [woods.clint@epa.gov]  
**Subject:** Delegated to Clint Woods: Meeting with Boeing, General Electric & Aerospace Industries Association re: aircraft emission issues (confirmed)  
**Attachments:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20  
**Location:** WJC - N 5400 + Video with AA + **Ex. 6 Personal Privacy (PP)**  
**Start:** 9/20/2018 2:30:00 PM  
**End:** 9/20/2018 3:15:00 PM  
**Show Time As:** Busy

### **Bill Wehrum did not attend this meeting**

**TO:** Bill Wehrum, Chris Grundler, Bill Charmley, Mike Samulski, Bryan Manning, Cullen Leggett, John Mueller, Mike Thrift, David Orlin, Julia Burch, Bob Giannelli, Bruce Maeroff, Jeffery Stevens, David Yen



RE: Request for  
Meeting with Ass...

### **Meeting participants (in person):**

- Aerospace Industries Association: Leslie Riegle and David Hyde
- Boeing: Ted Austell, Pete Pagano, John Moloney, Dan Allyn, Sean Newsum
- General Electric: Roger Martella, Neal Kemkar, Mike Fitzpatrick, Muni Majjigi, Joe Zelina

Message

---

**From:** Gonzalez, Gail [Gonzalez.Gail@epa.gov]  
**Sent:** 8/13/2018 3:13:26 PM  
**To:** Maeroff, Bruce [Maeroff.Bruce@epa.gov]; Samulski, Michael [samulski.michael@epa.gov]; Leggett, Cullen [Leggett.Cullen@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Lewis, Josh [Lewis.Josh@epa.gov]; Cook, Leila [cook.leila@epa.gov]; Hengst, Benjamin [Hengst.Benjamin@epa.gov]; Charmley, William [charmley.william@epa.gov]; Simon, Karl [Simon.Karl@epa.gov]; Bynum, Cheryl [bynum.cheryl@epa.gov]; Grundler, Christopher [grundler.christopher@epa.gov]  
**Subject:** FW: AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

Good Morning – Correction: The date for this meeting should be Tuesday, August 14 NOT Tuesday, August 15

*Thank you,*

*Gail Gonzalez*

OTAQ, Assessment and Standards Division - Ann Arbor  
Supporting the US EPA through a Cooperative Agreement with SSAI  
734-214-4303

---

**From:** Maeroff, Bruce  
**Sent:** Monday, August 13, 2018 11:04 AM  
**To:** Gonzalez, Gail <Gonzalez.Gail@epa.gov>  
**Subject:** FW: AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

Correct it to Tuesday, August 14.... (I think?- thanks to you looking it up)

Bruce Maeroff  
Senior Service America, Inc.  
Supporting the U.S. EPA through a Cooperative  
Agreement under the SEE Program,  
Assessment and Standards Division,  
Large Marine and Aviation Center  
2000 Traverwood Drive  
Ann Arbor, MI 48105 U.S.A.  
Cube N130  
ph (734) 214-4404 fax (734) 214-4816  
[maeroff.bruce@epa.gov](mailto:maeroff.bruce@epa.gov)

---

**From:** Samulski, Michael  
**Sent:** Monday, August 13, 2018 9:55 AM  
**To:** Leggett, Cullen <Leggett.Cullen@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>  
**Subject:** FW: AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

**Ex. 5 Deliberative Process (DP)**

\*\*\*\*\*

Michael Samulski  
U.S. Environmental Protection Agency  
Office of Transportation and Air Quality

Director, Large Marine and Aviation Center

1 (734) 214-4532

[samulski.michael@epa.gov](mailto:samulski.michael@epa.gov)

\*\*\*\*\*

---

**From:** Charmley, William

**Sent:** Monday, August 13, 2018 9:45 AM

**To:** Manning, Bryan <[manning.bryan@epa.gov](mailto:manning.bryan@epa.gov)>; Samulski, Michael <[samulski.michael@epa.gov](mailto:samulski.michael@epa.gov)>

**Subject:** Fwd: AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

Sent from my iPhone

Begin forwarded message:

**From:** "Lewis, Josh" <[Lewis.Josh@epa.gov](mailto:Lewis.Josh@epa.gov)>

**Date:** August 13, 2018 at 9:15:20 AM EDT

**To:** "Cook, Leila" <[cook.leila@epa.gov](mailto:cook.leila@epa.gov)>

**Cc:** "Hengst, Benjamin" <[Hengst.Benjamin@epa.gov](mailto:Hengst.Benjamin@epa.gov)>, "Charmley, William" <[charmley.william@epa.gov](mailto:charmley.william@epa.gov)>

**Subject:** RE: AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

## Ex. 5 Deliberative Process (DP)

# Ex. 5 Deliberative Process (DP)

**From:** Lewis, Josh

**Sent:** Friday, August 10, 2018 5:55 PM

**To:** Cook, Leila <cook.leila@epa.gov>

**Cc:** Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Charmley, William <charmley.william@epa.gov>

**Subject:** Re: AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

It's aircraft co2. Boeing (Pete Pagano) will also be there. Fed ex has one plane in particular they want to discuss with bill/Otaq.

Ex. 5 Deliberative Process (DP)

## Ex. 5 Deliberative Process (DP)

On Aug 10, 2018, at 5:29 PM, Cook, Leila <cook.leila@epa.gov> wrote:

Hi Josh,

## Ex. 5 Deliberative Process (DP)

Lee

**From:** Charmley, William

**Sent:** Friday, August 10, 2018 5:24 PM

**To:** Grundler, Christopher <grundler.christopher@epa.gov>

**Cc:** Samulski, Michael <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Cook, Leila <cook.leila@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Simon, Karl <Simon.Karl@epa.gov>; Bynum, Cheryl <bynum.cheryl@epa.gov>

**Subject:** RE: AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

Chris –

I just saw on AA Wehrum's public calendar the following entry –

## Ex. 5 Deliberative Process (DP)

Thanks

Bill

Wednesday, July 25, 2018

9:00AM	Meeting with FedEx Corporation	EPA Headquarters
9:45AM	Staff Briefings	EPA Headquarters
1:00PM	Meeting with Chemours	EPA Headquarters
2:00PM	Staff Briefings	EPA Headquarters

**From:** Charmley, William

**Sent:** Friday, August 10, 2018 5:14 PM

**To:** Grundler, Christopher <grundler.christopher@epa.gov>

**Cc:** Michael Samulski (samulski.michael@epa.gov) <samulski.michael@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Cook, Leila <cook.leila@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Simon, Karl (Simon.Karl@epa.gov) <Simon.Karl@epa.gov>; Bynum, Cheryl <bynum.cheryl@epa.gov>

**Subject:** AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

Dear Chris –

This afternoon you, Ben, Lee and I received an invitation from AA Wehrum for a meeting that AA Wehrum has on Tuesday with Ruch O'Keefe, a Senior VP and General Counsel for FedEx Express.

## Ex. 5 Deliberative Process (DP)

That's what I know on this.

Thanks  
Bill



Message

---

**From:** Burch, Julia [Burch.Julia@epa.gov]  
**Sent:** 7/30/2018 7:23:02 PM  
**To:** Manning, Bryan [manning.bryan@epa.gov]; Samulski, Michael [samulski.michael@epa.gov]  
**CC:** Leggett, Cullen [Leggett.Cullen@epa.gov]  
**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Ok thanks.

---

**From:** Manning, Bryan  
**Sent:** Monday, July 30, 2018 3:22 PM  
**To:** Burch, Julia <Burch.Julia@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>  
**Cc:** Leggett, Cullen <Leggett.Cullen@epa.gov>  
**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Julia,

## Ex. 5 Deliberative Process (DP)

Thanks,

Bryan

Bryan Manning  
U.S. EPA Office of Transportation and Air Quality  
Large Marine and Aviation Center  
2000 Traverwood Drive  
Ann Arbor, MI 48105  
(ph) 734-214-4832 (fax) 734-214-4816  
[manning.bryan@epa.gov](mailto:manning.bryan@epa.gov)

---

**From:** Burch, Julia  
**Sent:** Monday, July 30, 2018 3:14 PM  
**To:** Manning, Bryan <[manning.bryan@epa.gov](mailto:manning.bryan@epa.gov)>; Samulski, Michael <[samulski.michael@epa.gov](mailto:samulski.michael@epa.gov)>  
**Cc:** Leggett, Cullen <[Leggett.Cullen@epa.gov](mailto:Leggett.Cullen@epa.gov)>  
**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Sorry for the typo.

That is a lot of people. Do we need all of them because of the breadth of topics covered?

Thanks!

---

**From:** Manning, Bryan  
**Sent:** Monday, July 30, 2018 3:11 PM  
**To:** Burch, Julia <[Burch.Julia@epa.gov](mailto:Burch.Julia@epa.gov)>; Samulski, Michael <[samulski.michael@epa.gov](mailto:samulski.michael@epa.gov)>

**Cc:** Leggett, Cullen <Leggett.Cullen@epa.gov>

**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Thank you for the message, Julia. Could you add the following folks from OTAQ: Bob Giannelli, Bruce Maeroff, Jeff Stevens (Jeffrey A. Stevens for his email address), and David Yen? I am not sure if it matters, but Mike Samulski's name is misspelled below.

Thanks again,

Bryan

Bryan Manning  
U.S. EPA Office of Transportation and Air Quality  
Large Marine and Aviation Center  
2000 Traverwood Drive  
Ann Arbor, MI 48105  
(ph) 734-214-4832 (fax) 734-214-4816  
[manning.bryan@epa.gov](mailto:manning.bryan@epa.gov)

---

**From:** Burch, Julia

**Sent:** Monday, July 30, 2018 2:54 PM

**To:** Samulski, Michael <[samulski.michael@epa.gov](mailto:samulski.michael@epa.gov)>

**Cc:** Manning, Bryan <[manning.bryan@epa.gov](mailto:manning.bryan@epa.gov)>; Leggett, Cullen <Leggett.Cullen@epa.gov>

**Subject:** FW: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Boeing has requested another meeting with AA Wehrum. Please confirm that these are the attendees that I should put forward for the meeting:

- Chris Grundler
- Bill Charmley
- Mike Samulski
- Bryan Manning
- Cullen Leggett
- John Mueller
- Mike Thrift
- David Orlin
- Julia Burch

Am I missing anyone? Seems like they want to cover several topics. See agenda below.

Thanks!

---

**From:** Hengst, Benjamin

**Sent:** Monday, July 30, 2018 2:33 PM

**To:** Atkinson, Emily <[Atkinson.Emily@epa.gov](mailto:Atkinson.Emily@epa.gov)>; Sutton, Tia <[sutton.tia@epa.gov](mailto:sutton.tia@epa.gov)>

**Cc:** Rakosnik, Delaney <[rakosnik.delaney@epa.gov](mailto:rakosnik.delaney@epa.gov)>; Burch, Julia <[Burch.Julia@epa.gov](mailto:Burch.Julia@epa.gov)>

**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

**Ex. 5 Deliberative Process (DP)**

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**From:** Atkinson, Emily

**Sent:** Monday, July 30, 2018 2:30 PM

**To:** Hengst, Benjamin <[Hengst.Benjamin@epa.gov](mailto:Hengst.Benjamin@epa.gov)>; Sutton, Tia <[sutton.tia@epa.gov](mailto:sutton.tia@epa.gov)>

**Cc:** Rakosnik, Delaney <[rakosnik.delaney@epa.gov](mailto:rakosnik.delaney@epa.gov)>

**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Ben and Tia – could you let us know who from OTAQ and/or OGC should be included in this meeting? Draft agenda from Peter Pagano is outlined below.

Draft Agenda

## Ex. 5 Deliberative Process (DP)

Thanks!

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**From:** Rakosnik, Delaney

**Sent:** Monday, July 30, 2018 2:20 PM

**To:** Atkinson, Emily <[Atkinson.Emily@epa.gov](mailto:Atkinson.Emily@epa.gov)>

**Subject:** FW: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Am I missing anyone from Ann Arbor? So far I have Chris Grundler, Ben Hengst, Bill Charmley, Byron Bunker. Anyone else?

---

**From:** Pagano (US), Peter A [<mailto:peter.a.pagano@boeing.com>]

**Sent:** Monday, July 30, 2018 7:14 AM

**To:** Rakosnik, Delaney <[rakosnik.delaney@epa.gov](mailto:rakosnik.delaney@epa.gov)>

**Cc:** Lewis, Josh <[Lewis.Josh@epa.gov](mailto:Lewis.Josh@epa.gov)>; Hengst, Benjamin <[Hengst.Benjamin@epa.gov](mailto:Hengst.Benjamin@epa.gov)>; Atkinson, Emily <[Atkinson.Emily@epa.gov](mailto:Atkinson.Emily@epa.gov)>

**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Delaney

Thanks for the message. This is to confirm that the meeting time on Sept 20 will work on our end. We will be in touch to provide participant names closer to the meeting date. Please let me know what additional information you may need.

All the best

Pete Pagano

---

**From:** Rakosnik, Delaney <[rakosnik.delaney@epa.gov](mailto:rakosnik.delaney@epa.gov)>

**Sent:** Friday, July 27, 2018 12:31:07 PM

**To:** Pagano (US), Peter A

**Cc:** Lewis, Josh; Hengst, Benjamin; Atkinson, Emily

**Subject:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Peter,

Bill Wehrum can accommodate a 45 min meeting on Sept 20<sup>th</sup> at 10am. How does that time work for your schedules?

Many thanks,

Delaney Rakosnik  
Staff Assistant

Immediate Office of the Assistant Administrator  
Office of Air and Radiation, USEPA  
Room 5406A, 1200 Pennsylvania Avenue NW  
Washington, DC 20460  
Voice: 202-564-0935  
Email: [rakosnik.delaney@epa.gov](mailto:rakosnik.delaney@epa.gov)

---

**From:** Pagano (US), Peter A [<mailto:peter.a.pagano@boeing.com>]  
**Sent:** Monday, July 23, 2018 3:17 PM  
**To:** Rakosnik, Delaney <[rakosnik.delaney@epa.gov](mailto:rakosnik.delaney@epa.gov)>  
**Cc:** Lewis, Josh <[Lewis.Josh@epa.gov](mailto:Lewis.Josh@epa.gov)>; Hengst, Benjamin <[Hengst.Benjamin@epa.gov](mailto:Hengst.Benjamin@epa.gov)>  
**Subject:** Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20

Hi Delaney

The purpose of this message is to request a meeting with Assistant Administrator Wehrum to discuss aircraft emissions issues that are within the jurisdiction of the International Civil Aviation Organization's (ICAO) Environment Committee. OTAQ staff are actively engaged in policy formulation at ICAO as well as in developing domestic implementing regulations. Meeting participants would include representatives from Boeing; General Electric; and the Aerospace Industries Association. Attached below is a draft agenda which includes specific discussion topics. We are requesting Sept 19 or 20 as potential meeting dates because out of town participants for both companies will already be in DC for an industry meeting earlier in the week. We will work with you to find a convenient time that works for Mr Wehrum on either of those days. You should know that I have already provided background regarding this request to OTAQ (Ben Hengst). Thank you in advance for your assistance and please let me know if any additional information would be helpful to you.

Draft Agenda

## Ex. 5 Deliberative Process (DP)

Sincerely,

Peter A. Pagano  
Director, Environment  
The Boeing Company  
703-414-6486  
Email: [peter.a.pagano@boeing.com](mailto:peter.a.pagano@boeing.com)

Message

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**From:** Manning, Bryan [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9507F60B9C47448A88DD5D270BFC2DD4-MANNING, BRYAN]  
**Sent:** 4/4/2019 3:16:56 PM  
**To:** Samulski, Michael [samulski.michael@epa.gov]  
**Subject:** FW: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Hi Mike, I hope you had a good spring break. See the below messages. Let's discuss when you return. Thanks. Bryan

---

**From:** Hengst, Benjamin  
**Sent:** Thursday, April 04, 2019 11:14 AM  
**To:** Manning, Bryan <manning.bryan@epa.gov>; Charmley, William <charmley.william@epa.gov>  
**Cc:** Orlin, David <Orlin.David@epa.gov>  
**Subject:** RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

## Ex. 5 Deliberative Process (DP)

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**From:** Manning, Bryan  
**Sent:** Thursday, April 4, 2019 10:39 AM  
**To:** Charmley, William <charmley.william@epa.gov>; Hengst, Benjamin <Hengst.Benjamin@epa.gov>  
**Cc:** Orlin, David <Orlin.David@epa.gov>  
**Subject:** RE: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Hi Bill,

## Ex. 5 Deliberative Process (DP)

Thanks,

Bryan

Bryan Manning  
U.S. EPA Office of Transportation and Air Quality  
Large Marine and Aviation Center  
2000 Traverwood Drive  
Ann Arbor, MI 48105  
(ph) 734-214-4832 (fax) 734-214-4816  
[manning.bryan@epa.gov](mailto:manning.bryan@epa.gov)

---

**From:** Charmley, William  
**Sent:** Thursday, April 04, 2019 9:23 AM

**To:** Hengst, Benjamin <[Hengst.Benjamin@epa.gov](mailto:Hengst.Benjamin@epa.gov)>; Manning, Bryan <[manning.bryan@epa.gov](mailto:manning.bryan@epa.gov)>

**Cc:** Orlin, David <[Orlin.David@epa.gov](mailto:Orlin.David@epa.gov)>

**Subject:** FW: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Ben –

## Ex. 5 Deliberative Process (DP)

Thanks

Bill

---

**From:** Grundler, Christopher

**Sent:** Wednesday, April 03, 2019 2:53 PM

**To:** Hengst, Benjamin <[Hengst.Benjamin@epa.gov](mailto:Hengst.Benjamin@epa.gov)>

**Cc:** Charmley, William <[charmley.william@epa.gov](mailto:charmley.william@epa.gov)>; Samulski, Michael <[samulski.michael@epa.gov](mailto:samulski.michael@epa.gov)>; Thrift, Mike <[thrift.mike@epa.gov](mailto:thrift.mike@epa.gov)>; Orlin, David <[Orlin.David@epa.gov](mailto:Orlin.David@epa.gov)>; Manning, Bryan <[manning.bryan@epa.gov](mailto:manning.bryan@epa.gov)>

**Subject:** Re: Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

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### Ex. 5 Deliberative Process (DP)

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Christopher Grundler, Director

Office of Transportation and Air Quality

U.S. Environmental Protection Agency

202.564.1682 (Washington DC)

734.214.4207 (Ann Arbor MI)

734.645.5221 (mobile)

[www.epa.gov/otag](http://www.epa.gov/otag)

On Apr 3, 2019, at 2:40 PM, Hengst, Benjamin <[Hengst.Benjamin@epa.gov](mailto:Hengst.Benjamin@epa.gov)> wrote:

# Ex. 5 Deliberative Process (DP)

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**From:** Charmley, William  
**Sent:** Wednesday, April 3, 2019 2:10 PM  
**To:** Grundler, Christopher <grundler.christopher@epa.gov>  
**Cc:** Hengst, Benjamin <Hengst.Benjamin@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; Thrift, Mike <thrift.mike@epa.gov>; Orlin, David <Orlin.David@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>  
**Subject:** Report out on yesterday's Boeing/FedEx meeting with AA Wehrum - and next OTAQ steps with AA Wehrum

Dear Chris and Ben,

Yesterday Boeing and FedEx met with AA Werhum, Principal Deputy AA Anne Idsal, and Deputy AA Clint Woods to discuss the CO2 standard setting rule topic. This meeting was at the industry request. For OTAQ, Brian Manning, Cullen Leggett, John Mueller and Courtney Herbolzheimer. For Boeing and FedEx, the participants were:

- Peter Pagano, Boeing
- John Moloney, Boeing
- Rush O'Keefe, FedEx
- Ralph Carter, FedEx
- Steven Taylor, FedEx

# Ex. 4 CBI

# Ex. 5 Deliberative Process (DP)

# **Ex. 5 Deliberative Process (DP)**

# **Ex. 5 Deliberative Process (DP)**

Thanks  
Bill



Message

---

**From:** Manning, Bryan [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9507F60B9C47448A88DD5D270BFC2DD4-MANNING, BRYAN]  
**Sent:** 9/14/2018 5:13:55 PM  
**To:** Leggett, Cullen [Leggett.Cullen@epa.gov]; Yen, David [Yen.David@epa.gov]; Mueller, John [mueller.john@epa.gov]; Maeroff, Bruce [Maeroff.Bruce@epa.gov]  
**Subject:** FW: Industry participants for next week's meeting between aircraft/engine industry stakeholders and EPA Assistant Administrator Wehrum

---

**From:** Charmley, William  
**Sent:** Friday, September 14, 2018 9:32 AM  
**To:** kevin.welsh@faa.gov; Ralph.lovinelli@faa.gov  
**Cc:** Manning, Bryan <manning.bryan@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>  
**Subject:** Industry participants for next week's meeting between aircraft/engine industry stakeholders and EPA Assistant Administrator Wehrum

Dear Ralph and Kevin –

AA Wehrum's office informed us today of who will be coming from the industry for next Thursday's meeting with him.

The list is below.

Thanks

Bill

- Aerospace Industries Association: Leslie Riegler and David Hyde
- Boeing: Ted Austell, Pete Pagano, John Moloney, Dan Allyn, Sean Newsum
- General Electric: Roger Martella, Neal Kemkar, Mike Fitzpatrick, Muni Majjigi, Joe Zelina

Message

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**From:** Leggett, Cullen [Leggett.Cullen@epa.gov]  
**Sent:** 8/13/2018 3:31:18 PM  
**To:** Samulski, Michael [samulski.michael@epa.gov]; Maeroff, Bruce [Maeroff.Bruce@epa.gov]  
**Subject:** RE: AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

Interesting... Couple of thoughts... sorry for the mind dump

# Ex. 5 Deliberative Process (DP)

Regards,  
Cullen Leggett  
+1 734-214-4514

---

**From:** Samulski, Michael  
**Sent:** Monday, August 13, 2018 9:55 AM  
**To:** Leggett, Cullen <Leggett.Cullen@epa.gov>; Maeroff, Bruce <Maeroff.Bruce@epa.gov>  
**Subject:** FW: AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

Some more info. Looks like the 767 is the issue they are raising

\*\*\*\*\*

Michael Samulski  
U.S. Environmental Protection Agency  
Office of Transportation and Air Quality  
Director, Large Marine and Aviation Center  
1 (734) 214-4532  
[samulski.michael@epa.gov](mailto:samulski.michael@epa.gov)

\*\*\*\*\*

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**From:** Charmley, William  
**Sent:** Monday, August 13, 2018 9:45 AM  
**To:** Manning, Bryan <[manning.bryan@epa.gov](mailto:manning.bryan@epa.gov)>; Samulski, Michael <[samulski.michael@epa.gov](mailto:samulski.michael@epa.gov)>  
**Subject:** Fwd: AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

Sent from my iPhone

Begin forwarded message:

**From:** "Lewis, Josh" <[Lewis.Josh@epa.gov](mailto:Lewis.Josh@epa.gov)>  
**Date:** August 13, 2018 at 9:15:20 AM EDT  
**To:** "Cook, Leila" <[cook.leila@epa.gov](mailto:cook.leila@epa.gov)>  
**Cc:** "Hengst, Benjamin" <[Hengst.Benjamin@epa.gov](mailto:Hengst.Benjamin@epa.gov)>, "Charmley, William" <[charmley.william@epa.gov](mailto:charmley.william@epa.gov)>  
**Subject:** RE: AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

Additional background from FedEx ahead of the meeting at 10 am tomorrow: (cut from an email Bill got from the FedEx CEO)

**Ex. 4 CBI**

# Ex. 4 CBI

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**From:** Lewis, Josh

**Sent:** Friday, August 10, 2018 5:55 PM

**To:** Cook, Leila <[cook.leila@epa.gov](mailto:cook.leila@epa.gov)>

**Cc:** Hengst, Benjamin <[Hengst.Benjamin@epa.gov](mailto:Hengst.Benjamin@epa.gov)>; Charmley, William <[charmley.william@epa.gov](mailto:charmley.william@epa.gov)>

**Subject:** Re: AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

It's aircraft co2. Boeing (Pete Pagano) will also be there. Fed ex has one plane in particular they want to discuss with bill/Otaq. I likely have some more info in email that I'll dig out.

There's also a tote meeting that popped up...which you've probably already seen

On Aug 10, 2018, at 5:29 PM, Cook, Leila <[cook.leila@epa.gov](mailto:cook.leila@epa.gov)> wrote:

Hi Josh,

Today OTAQ received an invite referenced below for Bill W.' meeting with FEDEX on 8/15. There is no information in the appt and at the moment we are not thinking we know what the subject might be. In Bill's public calendar we located another FedEx meeting from 7/25<sup>th</sup>. We don't know whether they have any relationship. Anything you can pass along would be greatly appreciated.

Lee

---

**From:** Charmley, William

**Sent:** Friday, August 10, 2018 5:24 PM

**To:** Grundler, Christopher <[grundler.christopher@epa.gov](mailto:grundler.christopher@epa.gov)>

**Cc:** Samulski, Michael <[samulski.michael@epa.gov](mailto:samulski.michael@epa.gov)>; Manning, Bryan <[manning.bryan@epa.gov](mailto:manning.bryan@epa.gov)>; Cook, Leila <[cook.leila@epa.gov](mailto:cook.leila@epa.gov)>; Hengst, Benjamin <[Hengst.Benjamin@epa.gov](mailto:Hengst.Benjamin@epa.gov)>; Simon, Karl <[Simon.Karl@epa.gov](mailto:Simon.Karl@epa.gov)>; Bynum, Cheryl <[bynum.cheryl@epa.gov](mailto:bynum.cheryl@epa.gov)>

**Subject:** RE: AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

Chris –

I just saw on AA Wehrum's public calendar the following entry –

Can you, Ben or Lee look at AA Wehrum's internal calendar – maybe the meeting next week on the 15<sup>th</sup> is related to the meeting AA Wehrum had on July 25 with FedEx.

Thanks  
Bill

**Wednesday, July 25, 2018**

9:00AM	Meeting with FedEx Corporation	EPA Headquarters
9:45AM	Staff Briefings	EPA Headquarters
1:00PM	Meeting with Chemours	EPA Headquarters
2:00PM	Staff Briefings	EPA Headquarters

**From:** Charmley, William

**Sent:** Friday, August 10, 2018 5:14 PM

**To:** Grundler, Christopher <[grundler.christopher@epa.gov](mailto:grundler.christopher@epa.gov)>

**Cc:** Michael Samulski ([samulski.michael@epa.gov](mailto:samulski.michael@epa.gov)) <[samulski.michael@epa.gov](mailto:samulski.michael@epa.gov)>; Manning, Bryan <[manning.bryan@epa.gov](mailto:manning.bryan@epa.gov)>; Cook, Leila <[cook.leila@epa.gov](mailto:cook.leila@epa.gov)>; Hengst, Benjamin <[Hengst.Benjamin@epa.gov](mailto:Hengst.Benjamin@epa.gov)>; Simon, Karl ([Simon.Karl@epa.gov](mailto:Simon.Karl@epa.gov)) <[Simon.Karl@epa.gov](mailto:Simon.Karl@epa.gov)>; Bynum, Cheryl <[bynum.cheryl@epa.gov](mailto:bynum.cheryl@epa.gov)>

**Subject:** AA Wehrum (& OTAQ) meeting with Federal Express Senior VP & General Counsel Rush O'Keefe on Tuesday, August 15

Dear Chris –

This afternoon you, Ben, Lee and I received an invitation from AA Wehrum for a meeting that AA Wehrum has on Tuesday with Ruch O'Keefe, a Senior VP and General Counsel for FedEx Express.

## Ex. 5 Deliberative Process (DP)

That's what I know on this.

Thanks  
Bill

Message

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**From:** Samulski, Michael [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7ECF1AF23A134D2995FD354D03632D6C-SAMULSKI, MICHAEL]  
**Sent:** 8/20/2018 7:46:35 PM  
**To:** charmley.william@epa.gov  
**CC:** Manning, Bryan [manning.bryan@epa.gov]  
**Subject:** Updated Aircraft Briefing for Bill W  
**Attachments:** Briefing for Bill Wehrum on Aircraft CO2 NPRM\_8-20-18 - mjs.pptx

Bill,

Here is an updated briefing that includes the comments we received from Chris when we briefed him. We added three slides:

## Ex. 5 Deliberative Process (DP)

Also, we still have a placeholder to update slide 10 based on your discussion with Pete Pagano.

Please let me know if you have any comments. I will drop off a paper copy as well.

Mike

\*\*\*\*\*  
Michael Samulski  
U.S. Environmental Protection Agency  
Office of Transportation and Air Quality  
Director, Large Marine and Aviation Center  
1 (734) 214-4532  
samulski.michael@epa.gov  
\*\*\*\*\*

Message

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**From:** Samulski, Michael [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7ECF1AF23A134D2995FD354D03632D6C-SAMULSKI, MICHAEL]  
**Sent:** 8/14/2018 7:25:01 PM  
**To:** OTAQ Materials [OTAQMaterials@epa.gov]  
**CC:** Orlin, David [Orlin.David@epa.gov]; Thrift, Mike [thrift.mike@epa.gov]; maeroff.bruce@epa.gov; yen.david@epa.gov; Mueller, John [mueller.john@epa.gov]; Cullen Leggett (leggett.cullen@epa.gov) [leggett.cullen@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; charmley.william@epa.gov  
**Subject:** Materials for Tomorrow's Briefing with Chris on Aircraft CO2 NPRM  
**Attachments:** Prebrief to Chris on Aircraft CO2 NPRM.PPTX

The briefing materials are attached.

Mike

\*\*\*\*\*

Michael Samulski  
U.S. Environmental Protection Agency  
Office of Transportation and Air Quality  
Director, Large Marine and Aviation Center  
1 (734) 214-4532  
samulski.michael@epa.gov

\*\*\*\*\*

## Appointment

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**From:** Adm15Wheeler.Calendar [Adm15Wheeler.Calendar@epa.gov]  
**Sent:** 10/24/2018 7:58:41 PM  
**To:** Wehrum, Bill [Wehrum.Bill@epa.gov]

**Subject:** Canceled: Meeting with Boeing and General Electric  
**Attachments:** EPA Meeting Request Form.docx  
**Location:** Administrator's Office

**Start:** 10/25/2018 8:00:00 PM  
**End:** 10/25/2018 8:30:00 PM  
**Show Time As:** Free

**Importance:** High

### Contact:

TATUM MARTINEZ | CGCN GROUP  
1101 K STREET, NW, SUITE 800 WASHINGTON, D.C. 20005  
571.271.4901 / [martinez@cgcnc.com](mailto:martinez@cgcnc.com) / [www.cgcnc.com](http://www.cgcnc.com)



## Appointment

---

**From:** Atkinson, Emily [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=BB2155ADEF6A44AEA9410741F0C01D27-ATKINSON, EMILY]  
**Sent:** 9/21/2018 2:17:00 PM  
**To:** Wehrum, Bill [Wehrum.Bill@epa.gov]; Grundler, Christopher [grundler.christopher@epa.gov]; Charmley, William [charmley.william@epa.gov]; Samulski, Michael [samulski.michael@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Leggett, Cullen [Leggett.Cullen@epa.gov]; Mueller, John [mueller.john@epa.gov]; Thrift, Mike [thrift.mike@epa.gov]; Orlin, David [Orlin.David@epa.gov]; Burch, Julia [Burch.Julia@epa.gov]; Giannelli, Bob [Giannelli.Bob@epa.gov]; Maeroff, Bruce [Maeroff.Bruce@epa.gov]; Stevens, JeffreyA [Stevens.JeffreyA@epa.gov]; Yen, David [Yen.David@epa.gov]  
**CC:** Hengst, Benjamin [Hengst.Benjamin@epa.gov]; Schwab, Justin [Schwab.Justin@epa.gov]; Woods, Clint [woods.Clint@epa.gov]  
**Subject:** Delegated to Clint Woods: Meeting with Boeing, General Electric & Aerospace Industries Association re: aircraft emission issues (confirmed)  
**Attachments:** RE: Request for Meeting with Assistant Administrator Bill Wehrum - Sept 19 or 20  
**Location:** WJC - N 5400 + Video with AA + Ex. 6 Personal Privacy (PP)  
**Start:** 9/20/2018 2:30:00 PM  
**End:** 9/20/2018 3:15:00 PM  
**Show Time As:** Busy